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VIRGINIA MEDICAL MONTHLY

Official Publication of the Medical Society of Virginia

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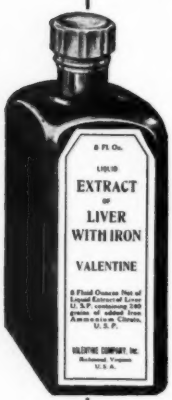

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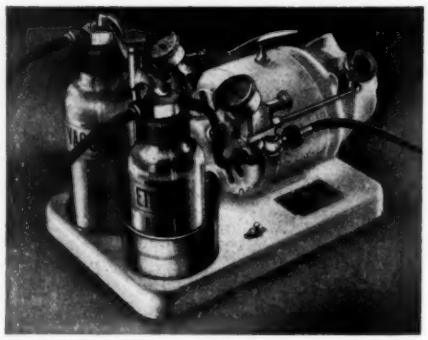

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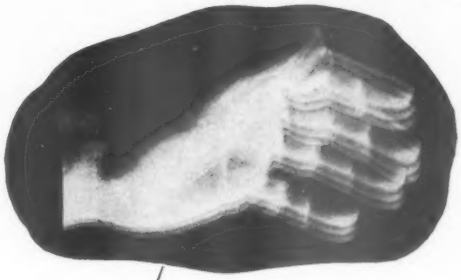

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Guest Editorial

The Role of the Medical Profession in National Preparedness

THE establishment of a Committee on Medical Preparedness by the House of Delegates of The American Medical Association at its meeting in New York in 1940 has given an opportunity to the members of the profession to make a needed contribution to National Defense and the preservation of individual liberty for which our democracy stands. Without any great head-lines or by-lines, without the promulgation of strikes, without bitterness, The American Medical Association and other allied organizations, including the dentists, the nurses, the pharmacists and the veterinarians, have followed a well-planned program and are now in a position to offer greater cooperation for national defense and to do so more effectively than has ever before been offered the armed forces in the history of the United States.

Such an undertaking in so far as the medical profession is concerned has been accomplished by the Medical Preparedness Committee of The American Medical Association in cooperation with many interested groups of physicians representing special societies and special organizations. A survey of the resources of the medical profession, made early in the present emergency, has furnished for analysis data concerning some 154,000 doctors of medicine in the United States. Of this number 62 per cent have signified their willingness to volunteer their services to the government when needed. The percentage of those willing to volunteer varies in different sections of the country, being above 62 per cent in some parts of the country and dropping as low as 40 per cent in others. It is important to know that a large majority have signified their willingness to serve, and we are confident that in the event of a greater emergency than now exists the response would be unanimous.

The medical needs of The United States can be determined according to the demands of the Army, the Navy, the Public Health Service, the Veterans Bureau, the Civil Service, Industry, and the Civilian Population. The supplying of these needs is a part of the responsibility of the medical profession. It is, therefore, evident that the procurement and assignment of physicians for these various services is a tremendous task. Fortunately the Medical Preparedness Committee has had the unselfish and hearty support of state chairmen and local committees in helping to determine community and other needs in working out this program. In undertaking such a tremendous job it stands to reason that it will not be possible to satisfy all interests in handling medical problems, yet it is necessary for all of us to realize that there must be individual and community sacrifices which are absolutely necessary in adjusting this program to the needs of the country. It means that physicians and hospitals must carry a greater load and that there be a more sympathetic understanding of these problems among the public.

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To state briefly some of these problems: At the present time the United States Army includes approximately 90,000 officers, 6,000 nurses and 1,480,000 enlisted men. Of the 90,000 officers, approximately 14,000 and 109,000 enlisted men are in the medical department. Among the 14,000 officers in the medical department 11,465 physicians are in the medical corps. Of this number 8,963 are reserve officers, 1,250 belong to the regular army and 1,232 are members of the National Guard. The Army calculates that six medical officers are necessary for each 1,000 troops. On this basis at the present time there is a shortage of approximately 1,500 physicians for the Army alone. Should the Army remain at its present level there will be required within the next year about 3,200 physicians for replacements. Should the size of the Army be increased there would naturally be a proportionate increase in the demand for physicians. It is commonly believed that about two-thirds of the physicians who are now in the service would desire to remain for the period of the emergency.

The medical schools of the United States graduate each year approximately 5,000 physicians. These graduates enter class A hospitals for interne training before they are eligible for a commission in the armed forces. After completion of this training not all can satisfy the present physical standards demanded by the Army and Navy for commissions. These graduates then who physically fail to qualify are the ones who must be utilized in supplying the other medical needs.

The needs of the Navy at the present time are practically satisfied. This branch of the service requires 6½ physicians for each 1,000 of personnel. At the present time through an expanded medical service their needs are fulfilled and they will require about 100 physicians each year for replacements.

The needs of The Veterans Bureau, The Civil Service and Industry, can be supplied with some readjustment of personnel. The needs of The Public Health Service will be filled with more difficulty because of the expanding activities of this group in its relation to the protection of the health of communities deprived of physicians' services because of other demands.

Civilian needs are recognized as being of paramount importance particularly as these needs are found to exist in rural communities. In the Southern States many small towns are without adequate medical and hospital facilities for their inhabitants, because no one has made any plans for handling the situation and civilians seem to make only a minimum effort to remedy this situation.

Recently a board was appointed by The Office of Defense and Welfare Service under The Federal Security Administration, known as The Board of Procurement and Assignment of Physicians, Dentists and Veterinarians. This board hopes to procure on a voluntary basis personnel from the qualified practitioners of these groups to supply on an equitable basis the various types of service which are now and will be demanded because of the national emergency as declared by the President of The United States. All physicians will be asked to cooperate in this National Defense effort to a much greater extent than heretofore.

An effort is now being made to determine the actual needs of these various services and through established committees an effort will be made to see that every physician is assigned a role which he is most capable of performing for the benefit of our country in making effective the purposes which our forefathers had in mind when this Land of Liberty was established.

JAMES E. PAULLIN, M. D.,
Atlanta, Georgia.

OFFICE GYNECOLOGY—DIAGNOSTIC AND THERAPEUTIC PROCEDURES USED BY THE SPECIALIST WHICH ARE ALSO AVAILABLE TO THE GENERAL PRACTITIONER*

JAMES RAGLAN MILLER, M.D.,
Hartford, Connecticut.

Office gynecology has been well presented in book form, notably by Dr. Howard A. Kelly in his "Medical Gynecology" and more recently by Dr. J. P. Greenhill in his monograph entitled "Office Gynecology". Some of the latest discoveries and methods presented in such books turn out to be passing vogues of current thought. Some are even obsolete before the book is off the press. Fundamental facts and basic methods of diagnosis and treatment do not change so rapidly.

New discoveries should be evaluated in our teaching centers where critical analysis of results can be made before they are adopted for general use. So fascinating is the romance of the endocrines that the over confident writings of our less cautious research clinicians are used by high pressure drug house salesmen to convince the general practitioner that he should use this or that new method. Both specialist and general practitioner adopt methods which have not yet been shown to be valuable for general use, and at the same time neglect the much more difficult problem of accurate diagnosis.

I practice in a community where, to an unusual degree, specialism in medicine is well developed and clearly defined. It has been natural for me, therefore, to develop this topic of office gynecology with an emphasis on those procedures which specialists commonly employ and which I have found could be, but are not, made use of by the general practitioner.

Time will permit me to mention a few examples sufficient only to indicate points of view and attitudes of mind which I regard as fundamental to good medical practice. I believe that no patient should go directly to a specialist. On the contrary, I believe each patient should have his own general practitioner and that the resources of the specialist should be rapidly and easily available when the general practitioner feels the need of help which specialism has to offer. In general I feel there is no excuse for the existence of any specialist who does not offer more skilled diagnosis and therapy than is commonly at the command of the general practitioner. Specialism has suffered much justified criticism because diagnostic and therapeutic procedures are carried out when the general consideration of the patient as a whole would indicate that they are hardly justified.

I believe it was Maurice Richardson who said that the principal duty of a consultant is to make a rectal examination. I assume that more and more general practitioners are equipped for simple endoscopic examination. I assume that more and more general practitioners have microscopes and make use of them. I assume, also, that general practitioners are willing to take and record reasonably complete histories. I may, of course, be wrong in these assumptions, but I know that every graduate of a good medical school and of a good hospital interneship should be so prepared. That specialist is indeed fortunate who works among physicians who practice on this high level of competency.

Every practitioner meets the problem of sterility. Only a few of the special examinations required are not at his disposal. He can examine the husband's semen and can in most instances quickly determine if he is an adequate partner. Semen should be collected in a clean glass receptacle and not in a rubber sheath. The post-coital examination of semen in the vagina and cervix is very useful, however, when the husband refuses to submit to examination. Spermatozoa must be many, actively motile and must show a very low percentage of abnormal forms. In addition to the examination of a fresh specimen, a slide can also be spread and stained as is any blood specimen and this can be submitted, if necessary, to a specialist. As in animal husbandry, the male must be healthy. Low metabolism, allergic states and debilitating constitutional conditions are as important in the husband as in the wife.

One should analyze carefully the entire sterility problem: Is there (1) an impotentia coeundi—inability to effect intercourse, or (2) an impotentia fructandi—inability to produce active sex elements and allow them to get together, or is there (3) an impo-

*Read by invitation before the Medical Society of Virginia, at its annual meeting at Virginia Beach, Va., October 6-8, 1941.

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tentia gestandi—an inability to carry to term a pregnancy which has started? It is obvious that effective treatment must be directed toward remediable defects and that these defects must be identified before treatment can be directed toward their correction.

The commonest failure of the general practitioner in handling a sterility problem, unless it be to disregard the husband, is to neglect the simple fundamentals in favor of the latest tricky procedures which he has learned from some high-pressure specialist or drug salesman. Of all the glandular extracts, thyroid is the only one which clearly has a place in this field and we should first determine if our patient has a thyroid deficiency. If so, this is easily remedied. In a sluggish, fat patient whose periods are scanty, it may be justifiable to try thyroid extract therapeutically, but I recommend the more accurate procedure of control by basal metabolic determinations.

If an insufflation test of the tubes or endometrial biopsy is to be done, care must be taken to avoid either procedure until all cervical and vaginal infections are cleared up. These procedures must be appropriately timed. Insufflation must be done during the first few days after the period and before the endometrium has begun to thicken, and the endometrial biopsy is useful in demonstrating presence or absence of ovulation only if it is done just prior to or at the beginning of menstruation. These facts should be kept in mind in referring patients to distant centers for detailed study of the sterility problem, for much time and expense can be saved the patient.

The general practitioner can solve a very large proportion of his sterility problems if only he is willing to do a little intelligently directed detective work. He will do well to eschew entirely all hormone therapy except thyroid. It is not yet clear that modern endocrine discoveries have given us anything of value for general use in the cure of sterility.

Dysmenorrhea presents a similar diagnostic problem. I am very much opposed to the use of hormone therapy for this condition, unless it is used in a frankly experimental manner. Most practitioners, and specialists, too, for that matter, have no business entering this experimental field. It is very expensive and perhaps harmful to the patient and it serves as an all too easy substitute for diagnostic study. Causes should be sought in the field of psychoneurosis, marital infelicity, abnormal sex life and allergy. Dysmenorrhea is frequently due to the same autonomic-nervous-system conditions which cause spasm of the bowel. On this basis, belladonna has long been a favorite though poorly tolerated remedy. I have had much satisfaction from novatropin gr. 1/24 every four to six hours at the onset of cramps or a day beforehand if possible.

The general practitioner, as well as the specialist, can make use of the recently developed treatment for pre-menstrual distress described by Greenhill and Freed, i.e., the administration of ammonium chloride 1 gm. three times daily and the restriction of sodium salts in the diet during the immediate pre-menstrual period.

Specialists often have referred to them for solution of the problem of vaginismus. The tricks which the specialist uses are available to any practitioner who has (1) a knowledge of the part that fear plays in causing this condition, (2) a knowledge of the action of the pelvic floor muscles and (3) patience and gentleness in conducting the examination.

The attitude of the patient with vaginismus is the attitude of defense, based on fear of being hurt. The pelvis is rotated backward as far as possible away from the feared cause of pain. The adductors of the thighs close to protect the region and the constricting muscles of the urogenital diaphragm and anus are tightly contracted.

The opposite to this situation is the attitude of defecation in the squatting position. All of the muscles of the pelvic floor must be fully relaxed if the object of defecation is to be attained, and we all know that the slightest pain-producing incident causes contraction of the whole sphincter group. We also know that opposing muscles, e.g., the biceps and triceps, cannot both function at the same time, and, furthermore, when one is in action the other is not only not in action but is in a state of reduced tone. So it is with the patient who, so to speak, clamps herself shut at the attempted examination. If we can get her to strain as at stool and concentrate on relaxing the anal sphincter, a process which is not accompanied in her mind by any sense of fear, we can get her to relax the entire set of muscles which are concerned with vaginismus. If, then, we gain her confidence by performing a rectal examination during which she should strain the rectum down over the examining finger, we will soon find it possible to make a vaginal examination—though with

a tight hymen cocaine application may be necessary.

I do not need to enlarge upon this line of treatment more than to say that it is very effective in over-coming many cases of dyspareunia and the method of getting the patient to strain down is useful in every pelvic examination that is made.

Dilatation of the hymen can be done easily under cocaine in the office. I have found graduated glass cone rectal dilators very useful for this purpose.

The blood sedimentation test is in almost daily use in my office. By this means I can with great accuracy rule out active infectious diseases and I am able to tell the earliest possible time when it is safe to operate on a patient who is recovering from a pelvic inflammatory process. The sedimentation rate is also rapid in recurrent malignancy, and a rapid rate will often point to an unsuspected pulmonary tuberculosis. This test is very easy to do, but I am constantly reminded that general practitioners do not appreciate its value, not only in gynecological cases but in many others.

The pessary is an instrument which I use in connection with retroflexion of the uterus more often for its diagnostic than for its therapeutic value. Is a patient's backache due to her retroflexion or to back strain? If the uterus can be placed in good position and held there by a pessary, we can soon eliminate the backache if retroflexion is its cause. More often it is not responsible and a useless operation is avoided.

There is not time to go into the subject of leukorrhea, but may I advise the use of the microscope as an indispensable aid in diagnosis and intelligent treatment. Gram stains of the urethral and cervical discharge can be examined for gonorrhea and yeast infections and a wet smear can be quickly checked for the presence of trichomonas organisms. I have found it very helpful to make the wet preparation in a drop of 1 per cent Safranin (the usual counter stain used in the Gram staining method) and I find it easy to identify the colorless unstained trichomonads in the midst of stained epithelia and pus cells.

I wish also to commend to your attention the knee-chest position as a method which helps in the examination of little girls, virgins and pregnant women. A speculum may not even be required to obtain a view of the vagina and cervix. In this position the vaginal walls are ballooned out so that application of disinfectant solutions and powders can be made more advantageously.

I have been astounded at the reluctance of the general practitioner to make use of the catheter. Certainly he, as well as the specialist, can examine, and also culture and stain sediment from bladder urine. He ought to be able to recognize easily a stricture of the female urethra and correct this ailment by dilatation with the male urethral sounds, with or without 10 per cent novocaine solution. I can recall several baffling problems that were solved by this simple procedure.

Dilatation of the cervix and sounding of the uterus is occasionally needed, especially after repair operations, cauterizations and after radium treatments for menorrhagia. I recall a very puzzling patient with arthritis who had undergone many of the treatments commonly employed for that condition, including a prolonged and very expensive sanitorium treatment. She came to me because of an irritating vaginal discharge. I learned that she had previously received a radium application for excessive flowing and suspecting a pyometra on the basis of cervical stenosis, I dilated the cervix in my office, not even requiring a local anesthetic. The vaginitis was quickly cured and the arthritis responded to the establishment of adequate drainage, just as it might have after removing a badly infected tooth, were that responsible.

I have no doubt that cauterization is extensively used by general practitioners and some comments may not be out of place. Three types of agents are employed, (1) chemicals, of which silver nitrate is an example, (2) the actual cautery such as the Pacquelin, or Post or nasal tip cautery and (3) the coagulating bipolar current. These agents vary in the order named in the depth to which necrosis of tissue is caused. All three have a so-called stimulating effect on the cervical epithelium, in the sense that the "burn" is rapidly over-grown by new squamous epithelium.

No active cauterization should be started until one is sure of these three things:

1. The absence of pregnancy.
2. The absence of cancer.
3. The absence of recent acute infection.

(1) Pregnancy may be interrupted if cauterization is attempted and the abortion may take place in the presence of infection which always follows cauterization. Hence the mildest measures, if any,

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should be taken in the treatment of cervicitis during pregnancy.

(2) Concerning cancer, I need only say that the specialist who is to treat the cancer, and it is without doubt a specialist's job, should have an opportunity to see the lesion before it has had any treatment whatsoever. If there is any doubt *please leave the lesions alone.* Do not even put in a tampon unless that is necessary to stop bleeding. Care must be taken not to overlook a cervical cancer in the presence of pregnancy. These are rare, but we have two or three such cases each year in Connecticut. They are almost always early cases when they first come to the doctor, though he usually does not recognize them as such. When recognized, however, they are particularly favorable for treatment and they should be referred promptly to an experienced specialist.

The most common and the most serious mistakes which are made in cauterizing the cervix according to my observations are: To cauterize the cervix which harbours recent active infection or to cauterize too soon after childbirth or after previous cauterization or to cauterize the cervix on the surface of which many blood vessels are clearly visible. If such a hyperæmic cervix is cauterized, there may be severe bleeding at the time and even more severe bleeding two weeks later when the slough separates. Active cauterization causing any degree of necrosis should not be repeated oftener than every 4 to 6 weeks. This time is required for the healing process to recover from the previous treatment.

The inflamed and hyperæmic cervix can be treated easily and successfully if silver nitrate is used not oftener than once in two weeks, until such time as it is safe to use a more penetrating type of cauterization. During all this time an acid douche of vinegar, two ounces to two quarts of water, is very beneficial. Alkaline douches should be discontinued for the natural reaction of the vagina is strongly acid and this acidity is greatly increased during pregnancy, as it is one of the most potent protective mechanisms against infection. Ulcerations of the cervix and vagina can even be produced by keeping the reaction of the vagina on the alkaline side, producing the conditions found in the monopause which lead to vaginitis.

Rare though it is, the primary lesion of syphilis can be found on the cervix or in the vagina if the general practitioner is alert. When the male partner is known to have a fresh infection, his consort should be examined repeatedly and dark field examination should be made of any ulceration. These lesions can be found if they are looked for and it is to the general practitioner that we must look for their early discovery. He must realize that the examination of the blood for syphilis is not dependable at this early stage, but that treatment is most effective.

Cauterization of the cervix in the face of active infection has caused severe damage and even death. One of our local physicians made such a mistake by cauterizing a cervix in which he had one week previously recovered a positive smear for gonorrhea. His patient died on our ward one week after the cauterization, and autopsy showed sepis originating in the cervix.

I have this past year seen two similar cases of severe pelvic infections which followed cauterization of the cervix. In both of these there was already considerable endometriosis, and the combination of infection with endometriosis makes an extremely difficult one to handle.

Deep lacerations of the cervix are best treated by surgery. Fortunately today we see fewer of these than formerly and it is quite rare for us to perform operations on the cervix unless they are combined with other prolapse work. Concerning the retention or Nabothian cysts of the cervix, one is apparently justified in opening, evacuating and destroying the lining of these cysts by some suitable cautery. No great harm is done by so doing. Unless, however, these cysts are of considerable size, distorting the cervical canal and interfering with proper drainage, we cannot claim that we are doing anything really important for the patient. Retention cysts which line the cervical canal itself are best treated by conization or by surgery, for adequate cauterization of the canal in such instances is apt to produce stenosis. I well remember that in the early days of our postnatal clinic in the Hartford Hospital some of the cases were cauterized too deeply and too much, for later a few of them developed real stenosis of the cervix which led to serious dystocia.

The greatest service which cauterization of the cervix can do is to destroy early the pre-cancerous lesions about the external os. This is where the single layered cervical epithelium stops and the many layered stratified squamous epithelium of the vagina begins. This is where most cervical cancers originate and it is here that the prophylactic early treatment

of chronic lesions by cautery can actually prevent the growth of cancer, at least that is the present thought on the subject. Cauterization should not be employed as a treatment of cancer. If there is any doubt at all whether the lesion is malignant, consultation should be obtained with a pathologist, through the medium of a small section of tissue taken for biopsy.

Some wag once said, "There is nothing so uncommon as common sense". Perhaps the specialist is justified of his existence after all if he can bring this rare faculty to bear on the diagnosis of the individual patient.

179 *Allyn Street.*

DISCUSSION

DR. WAVERLY R. PAYNE, Newport News: I want to thank Dr. Miller for his very fine paper. It has brought to us some valuable points useful in everyday office practice. I was interested in the problem of cauterizing cervix in the office. I think all of us who have done these things often enough have encountered excessive bleeding, either at the time of operation or a few days later. It is more common in cases of marked hypertrophy or edema of the cervix. Extensive cauterization or conization of the cervix can be done better in the hospital, and, with the use of good anesthesia, bleeding can readily be controlled by sutures.

This entire paper is of practical value both to men in general practice and in the specialty, and I personally want to thank Dr. Miller for his kindness in appearing before our Society.

THE GYNECOLOGICAL HISTORY AND EXAMINATION*

RANDOLPH H. HOGE, M.D.,
Richmond, Virginia.

This paper deals with the history taking and the examination of the office or clinic out-patient and gives the forms for such used in the Gynecology Out-Patient Clinic of the Medical College of Virginia.

I. *Remarks Concerning the History.*

One cannot wisely take a history of the behavior of one part of the body to the exclusion of the rest. The physician or student who most considers the patient's welfare and his own reputation will take a general history as well as a special history, even though the patient's chief complaint is of an apparent gynecological nature. This is desirable because there is an inseparable relationship between the genital system and other systems of the body; because many apparent gynecological conditions are in reality systemic or remote diseases, or even imaginary; and because it may be important to modify the treatment according to the ability of the patient as a whole to withstand the hazard of such treatment.

Though a patient has a retroversion of the uterus, backache may be of orthopedic origin, or urologic, or possibly due to a distant focus of infection. Though a patient has a cystocele, urinary disturbance may be due to tabes dorsalis; and amenorrhea may be due to pulmonary tuberculosis. Social or economic maladjustment may be the basis for many ill-defined gynecological symptoms, and marital incompatibility sends patients to the physician.

A detailed special history should be included in this general history. It should concern the age of the menarche; menopause; the frequency, duration, amount and character of the menstrual discharge; changes in rhythm; amenorrhea; the date of the last period and of the period before last; dysmenorrhea; intermenstrual bleeding; leucorrhea, its amount, color, odor, and whether it causes itching. The past operative and obstetrical history should be obtained, giving the character of the operation, the number of pregnancies, their dates and outcome and the character of labor and convalescence. It is often desirable to inquire into the sexual history in regard to the frequency and dates of coitus; to the presence of libido, of dyspareunia; to the use of contraceptives. A detailed urinary history is desirable.

The taking of gynecological history often requires great tact. Many times the patient's real complaint is of such an intimate nature that to her it is embarrassing and not readily elicited. In such a case the patient may substitute another complaint. If the patient seems embarrassed, hesitant, or unsatisfied, it is well to pursue tactfully the history further or ask frank and pointed questions. It is rarely desirable to have a third party present when the gynecological history is being taken, but during the examination the presence of a third party is usually desirable.

*From the Department of Gynecology of the Medical College of Virginia.

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The history will not only aid in finding the disease, if any; but it should also determine if fear is present. It is probably safe to say that many patients who come to the doctor are frightened in one way or another, and sometimes the fear is of greater magnitude than the disease itself. This fear may be specific, as the fear of venereal disease or of cancer, or ill-defined as a general sense of alarm. Often no one is so well fitted to reveal this fear as the doctor, and often no one is so well fitted to dispel it as he.

In practice the use of a printed history form is a matter of individual preference. When an assistant or a student takes the history such a form is desirable in order that information desired by the physician will not be omitted. However, it is preferable for the physician to take the history himself. In this case he may follow a mental form rather than a printed one. Of course, the habit of taking no written history is to be condemned and regretted.

The history form used in the Gynecology Clinic of the Medical College of Virginia Out-Patient Department is filled in with no omissions except in unusual cases. It will be noted that the form has an upper and a lower part. In the upper part the form is filled in briefly, using one or two words or figures, or a check if the condition is normal, or a zero if absent, or a cross if abnormal. If abnormal, a more detailed description is made in the lower part of the form which has been left blank for this purpose. Also in the lower part of the form is put pertinent information for which there is no space in the upper part. It is well to remember that the patient may not know the meaning of technical terms. Simpler language should be used in addressing the patient.

II. *Remarks Concerning the Examination.*

With obvious exceptions the general examination of a patient should include a gynecological examination. Likewise, the gynecological patient should have a general physical examination as well as a local examination. A routine pelvic examination may reveal an unsuspected carcinoma of the cervix. An enlarged thyroid may account for menstrual disturbances.

The gynecological examination should follow a routine form. The examination should begin with an inspection of the vulva, after having put the patient in the lithotomy position and the bladder having been emptied. Then the urethral meatus should be inspected and the urethra and its associated Skene's ducts should be palpated, if possible, and stripped to express any pus or mucus present. Smears of such discharge should be taken. The presence of redness, swelling, undue tenderness, induration or pus suggest acute or residual infection. In some instances urethral carcinoma, polypi, caruncles, or suburethral cysts are demonstrable. Instruments such as urethroscopes and skenoscopes may be of considerable value in unusual cases. An attempt should be made to palpate the Bartholin's glands, located symmetrically on each side of the vestibule. If indurated or enlarged they are palpable and diseased. The opening of the ducts, especially if inflamed, may be seen in the vestibule just external to the hymenal ring. Pus exuding from these should be smeared and examined microscopically. It is probable that infection of Skene's ducts and of Bartholin's glands are often not gonorrheal in origin, but they are commonly so. The introitus should be inspected for size and condition.

It is essential that the digital examination be done gently and as painlessly as possible. In bimanual examination which hand is used in the vagina and which on the abdomen is a matter of individual preference and is in most instances unimportant. The vaginal hand should be gloved for the protection of the patient, the physician, and the next patient. The glove, of course, should be sterilized after each case. The index and middle fingers should be well lubricated with a greaseless substance and inserted with pressure posteriorly upon the perineum to avoid contact with the more sensitive anterior structures. At the same time it is well to separate the labia with the other hand. Pressure is then exerted downward and outwardly to gauge the strength and size of the perineum. The patient is made to bear down while the labia are separated to determine if there is abnormal bulging of the posterior and anterior walls of the vagina. She is then made to contract the levator ani muscles to determine their condition. The size, shape, consistency, position and direction of the cervix should be noted, and also the size, shape, position, consistency and mobility of the uterine body. The lateral aspects of the pelvis should next be palpated for masses, induration and tenderness. In cases of relaxation it is often well to examine the patient standing erect, or else some cases of cystocele and prolapse will be missed. Rectovaginal examination is very useful. It is especially valua-

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ble in cases that will admit only one finger into the vagina, and in cases of diseased processes in the pouch of Douglas and in the rectovaginal septum.

In cases in which the rectum and sigmoid colon are distended with feces it is often desirable to re-examine the patient after an enema.

The most commonly used specula are of the bivalve variety. It is well to have these in three sizes to meet the need of varying sizes of the vagina and introitus. This speculum should be well lubricated when used, inserted obliquely and pressed posteriorly rather than anteriorly, then turned on reaching the vault of the vagina, and the blades separated. Special specula for long narrow or constricted vaginas are essential in some cases. Speculum examination of the virgin or of those patients with contracted vaginas can sometimes be done with an urethroscope.

The matter of illumination is very important. The use of a floor lamp often does not meet the need. A head lamp may be better, and better still is a light that fits directly onto the speculum. Introduction of the colposcope by Hinselmann should improve the diagnosis of cervical lesions by inspection. The magnification used is approximately ten times. The use of this instrument may increase the early diagnosis of carcinoma and of precancerous lesions.

Smears from the cervical canal and urethra should be taken on all cases having or complaining of an abnormal discharge. Often they should be of both the dry and wet variety. The former to be stained for bacteria, and the latter examined for yeasts and trichomonads. The material for the wet smears can be taken with a wire loop, a pipette, or even a cotton swab. It should be mixed with a drop of normal saline on a glass slide and, of course, examined at once under the microscope. The dry smear material is taken with a swab and transferred to the slide with a rolling motion rather than rubbed on. The smears are then stained and examined. The Gram method of staining is most valuable.

The gynecology clinic's Physical Examination form appears on the back of the History Sheet. Its format is similar to that of the History form and so is the manner of its use. All items are answered except in unusual cases.

III. *Forms Used:*

MEDICAL COLLEGE OF VIRGINIA

GYNECOLOGIC OUT-PATIENT DEPARTMENT

HISTORY SHEET *Date*_____

*Clinic Doctor*_____

Use one word where appropriate. v=normal x=abnormal, see below

NAME: AGE RACE: MARITAL STATUS:

ADDRESS: OCCUPATION:

CHIEF COMPLAINT: Duration:

OPERATIVE HISTORY: (character, date, hospital, doctor)

MENSTRUAL HISTORY: Menarche: Menopause: Frequency: Duration:

Amount: Character: Date last: Date before last:

Change in rhythm: Amenorrhea: Intermenstrual Bleeding

Dysmenorrhea: Pro Con Post

Leucorrhea: Amount: Color: Odor: Itching:

OBSTETRICAL HISTORY: No. pregnancies: Date of last:

No. and character miscarriages: No. living children:

Character labors: Character puerperia:

Coitus: Date of last: Frequency: Libido: Dyspareunia:

Contraceptives:

URINARY: Dysuria: Frequency: Urgency: Nocturia: Hematuria: Incontinence

NERVOUS: GASTROENTERIC: CARDIORESPIRATORY:

Below give pertinent additional history, elaborating abnormalities noted above.

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MEDICAL COLLEGE OF VIRGINIA
GYNECOLOGIC OUT-PATIENT DEPARTMENT
PHYSICAL EXAMINATION SHEET *Date*_____

NAME: AGE:

v=normal x=-abnormal o=not present Blank=not examined

Abdomen:					
Vulva:	Perineum:	Bartholin's Glands:		Urethra:	Skene's Ducts:
Introitus		Vaginal mucosa:		Rectocele:	Cystocele:
Discharge:					
Cervix:	Size:	Shape:	Consistency:	Position:	Direction:
	Appearance:				
Body:	Size:	Shape:	Position:	Consistency:	Mobility:
Fornices:		Masses:	Induration:	Tenderness:	
Rectal:					

Below give elaboration of abnormalities noted above, further examination, if done.

TENTATIVE DIAGNOSIS:

OBSERVATIONS IN THE MANAGEMENT OF TWO HUNDRED AND THIRTY FOREIGN BODIES IN THE AIR AND FOOD PASSAGES*

ELBYRNE G. GILL, M.D.,
and
JAMES H. GRESSETTE, M.D.,
Roanoke, Virginia.

In 1936 we presented to this Society our observations in the management of one hundred and sixty-four foreign bodies in the air and food passages. Today we are reporting two hundred and thirty cases with the progress which has been obtained. Bronchoscopy is a recognized specialty by the profession and is no longer looked upon as a spectacular procedure. Despite the general knowledge of bronchoscopy and its usefulness as a diagnostic and therapeutic procedure, the medical literature has reports of many instances of failure to make use of this important procedure in obscure chest conditions.

In this report, we wish to present the following information:

(1) The signs and symptoms of foreign bodies in the respiratory tract.

(2) The signs and symptoms of foreign bodies in the esophagus.

(3) The location of foreign bodies in the respiratory tract and esophagus.

(4) The causes of death in this series.

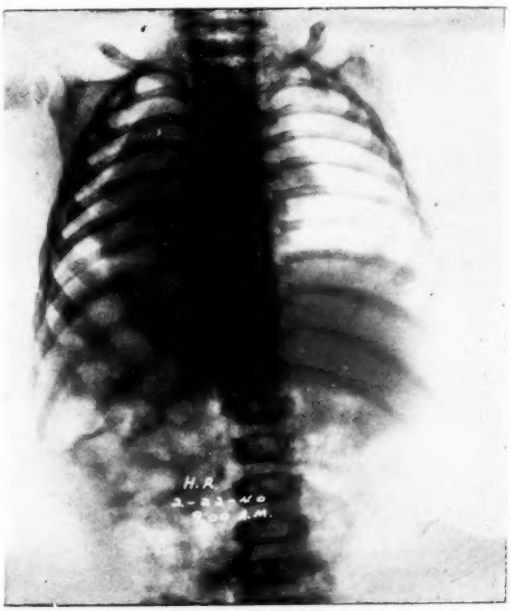
(5) The number of tracheotomies.

(6) Methods of prevention.

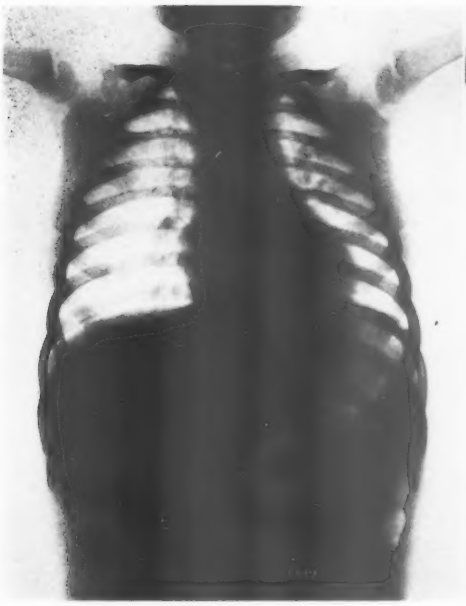
(7) Our methods of preparation of the patients for bronchoscopy.

*Read at the annual meeting of the Medical Society of Virginia at Virginia Beach, October 6-8, 1941.

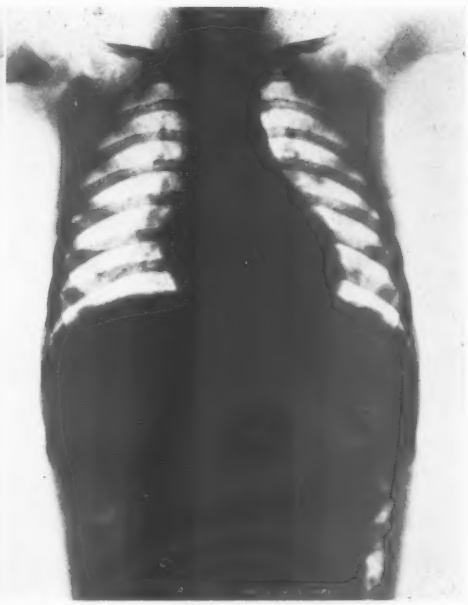
Where there is a definite history of choking while eating followed by severe coughing, the possibility of a foreign body in the air passages must be con-



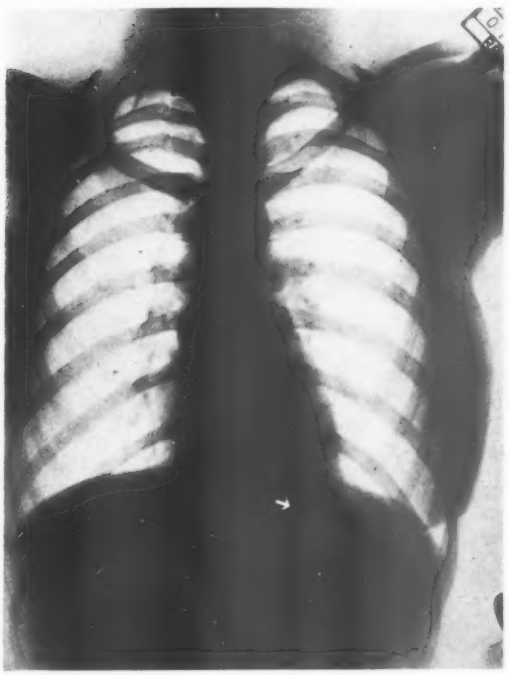
Patient H. R. Age—9 months. Safety pin in esophagus. Duration—12 hours. Removed esophagoscopally.



Patient P. H. Age—18 months. Before bronchoscopy. Whole grain of corn in right main bronchus. Typical obstructive emphysema.



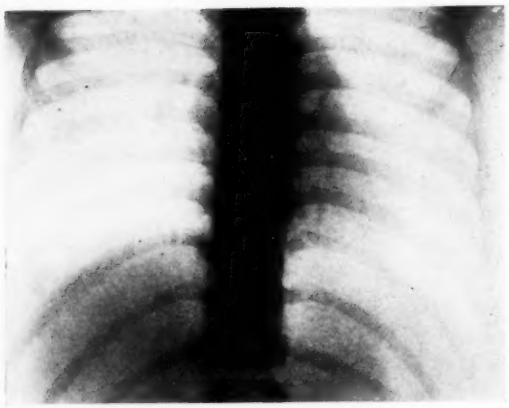
After bronchoscopy. Whole grain of corn in right main bronchus. Typical obstructive emphysema.



Patient I. S. Age—17 years. Straight pin in lower stem bronchus. Duration—two years. Symptoms—persistent cough. Illustrates importance of x-ray studies in all cases of unexplained cough.

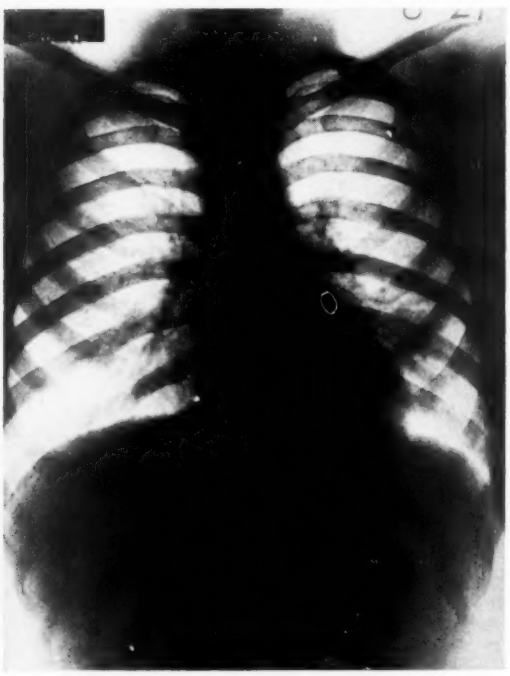
sidered whether there was cyanosis or not. The signs vary with the kind and type of foreign body: if it was a small and light object, if soon after the accident you may hear a rattling or thumbling sound over the trachea, or if there is obstruction to the bronchus, air is at first trapped in the distal portion so as to give obstructive emphysema signs, greater transparency on the affected side, the heart dislocated to the unaffected side, and the diaphragm depressed and flattened on the affected side. This may go on to complete obstruction of the airway in the bronchus; then the air distal to the obstruction is absorbed, and we have atelectasis with its signs, especially the displacement of the heart to the affected side. The trachea is usually pulled to the affected side. The course by which atelectasis is produced may be quicker if there is complete obstruction at first to the bronchus.

Foreign bodies in the food passages may give a history of choking or gagging usually followed by dysphagia. The pain is usually consistently at one point and is increased on swallowing. Frequently there is regurgitation of food, or there may be obstruction to the esophagus which gives a spilling over of secretions and fluids into the larynx and trachea to give respiratory symptoms, or the foreign



Patient J. B. Age—8 years. Can opener in esophagus. Removed esophagoscopally.

body may be in the esophagus and press on the trachea to give symptoms referable to the respiratory tract.



Patient 15 years old. Metal banjo screw in left inferior bronchus. Duration three years. Symptoms—persistent cough. Screw removed bronchoscopically.

The following analyses are self explanatory.

FIRST ANALYSIS OF 230 CASES:

Foreign Body in Hypopharynx	14
Foreign Body in Cricopharyngeal	39
Foreign Body in Larynx	14
Foreign Body in Trachea	6
Foreign Body in Right Bronchus	41
Foreign Body in Left Bronchus	21
Foreign Body in Esophagus	74
Foreign Body in Stomach	16
Foreign Body in Large Intestine	2
Foreign Body in Small Intestine	3
Total	230

SECOND ANALYSIS OF 230 CASES:

Deaths due to:

Acute pneumonitis following removal of foreign body	2
Lung infection	2
Perforation of bronchus	1
Total	5

THIRD ANALYSIS OF 230 CASES:

Tracheotomies necessary

Dyspnea prior to bronchoscopy	10
Dyspnea following bronchoscopy	5
For removal of foreign body	2
For aspirating pus in lung abscess	1
Total	18

FOURTH ANALYSIS OF 230 CASES:

Multiple foreign bodies	3
More than one attempt to remove foreign body	7
Failure to remove	6
Number expelled by cough	4
Number passed into stomach and recovered	21
Total	41

Youngest patient	1 month
Oldest patient	76 yrs.
Duration of foreign body	½ hr. to 7 yrs.

FIFTH ANALYSIS OF 230 CASES:

Number of open safety pins, point up in esophagus	12
Number of open safety pins, point up in trachea	2
Number of open safety pins, point up in larynx	2
Portions of safety pins in bronchus	1
Closed safety pins	2
Total	19

Number passed by bowel	7
Number removed endoscopically	12
Number coughed by larynx	1
Total	20

SIXTH ANALYSIS OF 230 CASES:

Mineral Kingdom:

Clip binder (Chicago screw post)	1
Button	1
Metal portion of lipstick	1
Suitcase rivet	2
Metal screw from banjo	2
Shoe horn	1
Safety pins	21
Straight pins	9
Small bolts	1
Metal top from horn	1
Piece of wood	1
Piece of lead	1
Coins	2
Coin (dime)	1
Coin (French penny)	1
Coin (penny)	7
Coin (quarter)	3
Coin (nickel)	9
Small nail	2
Small tin ring	1
Tobacco top	1
Brassiere hook	1
Dental plates	3
Mattress tacks	2
Shipping tacks	1
Carpet tacks	2
Nails	2
Portion of lamp chimney	1
Piece of wire screen	1
Portion of safety pin	1
Glass beads	3
Jack rocks	2
Copper rivets	1
Pipe stem	1
Piece of wire	1
Overall buttons	2
Small rock	1
Tin whistle	1
Thumb tack	1
Slot machine check	1
Metallic tacks	2
Metallic washer	1
Can opener key	1
Needle	1
Tin disc size of .25	1
Total	103

Animal Kingdom:

Squirrel bone	1
Vertebra of squirrel	2
Fish bones	11
Chicken bones	24
Bolus of meat	18
Bolus of food	1
Turkey bone	1
Beef bone	2
Bolus of chicken meat	2
Chicken gizzard	1
Partridge bone	1
Fibrinoids cast	1
Total	65

Vegetable Kingdom:

Nut shell	5
Peanuts	17
Peanut fragment	1
Piece of apple	1
Piece of wheat bread	1
Whole grain of corn	7
Cackle burr	1
Pinto bean	1
Piece of cocoanut	1
Splinter of wood	1
Portion of corn cob	1
Coffee grains	2
Husk of peanut	1
Beans	2
Watermelon seeds	2
Chestnut	1
Piece of grass seed	1
Apple stem	1
Piece of walnut	3
Piece of walnut hull	2
Peach seed	1
Prune seed	1
Portion of grain of corn	1
Grain of corn	1
Weed	1
Piece of cinnamon bark	1
Cedar twig	1
Piece of grass with barbs	1
Husk of grain of corn	1
Piece of carrot raw	1
Total	62

Tracheotomies frequently have to be done following bronchoscopies, especially on patients under two years of age. The frequency can be decreased if great care is taken in selecting the size of the bronchoscope, using the smallest possible. Do not prolong the operation. The operator must be gentle. He must have teamwork to do his best for the patient.

ANESTHESIA

We have abandoned the idea that anesthesia, local or general, is unnecessary in children. Our policy is to give some form of anesthetic in every case that is not dyspneic. We obtain muscular relaxation either by use of morphine with atropine or sodium amytal per rectum, supplemented with ether if necessary, being mindful never *completely to abolish the cough reflex*. We feel confident better work and less traumatism will occur under muscular relaxation which is impossible without some degree of anes-

thesia. We have never had a patient to develop pneumonia following bronchoscopy under ether anesthesia, nor have we had a patient develop pneumonia following a tracheotomy.

MORTALITY

Four deaths in this series of two hundred and thirty patients gives a mortality rate of 1.7 per cent. This compares favorably with the results in the larger bronchoscopic clinics. We attribute our low mortality rate to careful preoperative and postoperative treatment combined with the strict observance of bronchoscopic technique. Most of the foreign bodies in the respiratory tract occur in very small children who are ill nourished, ill clad, and ill housed. Often times blood transfusions are given before and after bronchoscopy. Careful medical attention to these children cannot possibly be too strongly emphasized.

CONCLUSIONS

The greater percentage of foreign bodies of the food and air passages occur in children under the age of five. Foreign bodies occur more frequently in the food passage with the mineral kingdom leading the list and with coins predominating. The peanut is our most frequent intruder of the air passage. We notice that the duration of the object's stay is much less now than it was during the first part of this series. This is due to the greater alertness and ability of doctors to investigate their patients' complaints. Our procedure for the best results is: a careful history, physical examination, x-ray, an early endoscopic examination and removal, if possible, of the offending foreign body. This requires teamwork for it is no individual doctor's problem.

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DISCUSSION

DR. V. W. ARCHER, University: I am certain that Dr. Gill had in mind but did not have time to talk about the most important single part of the x-ray examination, which is fluoroscopy. Only in this manner can one detect the motions of the diaphragm. If there is a foreign body in even one of the minor divisions of the bronchial tract, you will see a definite lag in the diaphragm on that side. For this examination you screen the fluoroscopic shutter down so as to get the two diaphragms parallel. Make the patient cry, or, if old enough, breathe deeply. Watch the diaphragms move. If there is an obstructive emphysema, you will see an immobility of the diaphragm on that side. The other diaphragm will move fairly normally. Note the position of the heart. Instead of the heart rotating on its axis as it ordinarily does, you will see it pushed over towards the good side. Now, the opposite is true in atelectasis. You will see an immobility of the diaphragm on the affected side, but the heart is displaced over in that direction. These cases are easy. The hard ones are the ones where there is partial obstruction of the bronchus. In these cases there will be no fixation of the diaphragm; the diaphragm will move, but on the affected side you will see a definite lag of the diaphragm. One diaphragm will go down normally, then the other will follow it rather slowly.

Therefore, if you are going to call it an x-ray examination, you must include fluoroscopy, because films alone are worthless in this type of case. It is by fluoroscopic examination of the movement of the diaphragm alone that one may detect partially obstructing foreign bodies.

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DISEASES OF THE LIVER
CLINICAL FEATURES; LIVER FUNCTION TESTS; AND TREATMENT*

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Despite the great achievements of modern medicine, diseases of the liver even now may be quite difficult to diagnose with certainty and often impossible to treat with any degree of satisfaction. Any hope for a better understanding of the diseases of that organ must lie in a more intelligent comprehension of their physiology and a more accurate correlation of the pathologic disturbances underlying those diseases with the clinical features presented by them.

In the past few years considerable light has been thrown upon this subject as a result of the large amount of research that has been carried on in that connection. In particular, this work includes the

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investigation of the plasma proteins, their formation, storage and utilization; the studies dealing with the effect of starvation, plasma phoresis, and the various diets on the composition of the liver structure; and the discovery of vitamin K and the source of prothrombin. One should mention also the recognition of the production of hypoproteinemia by liver disease and the appreciation of the full significance of a lowered plasma protein as regards the production and outcome of many important medical and surgical disorders. Among the numerous other contributions are the introduction and perfection of more satisfactory liver function tests which enable us to understand better the physiologic capacity of that organ *in vivo*.

It is upon the basis of the conclusions which may be drawn from the investigative work done on the subject that the presentation of this paper is considered justified.

Such a discussion of this group of diseases may be appropriately conducted under the following three headings:

1. The clinical features of the more frequently encountered types of liver diseases.
2. The common laboratory aids useful in the diagnosis of the disorders affecting the liver.
3. Some suggestions regarding the treatment of certain diseases of the liver.

CLINICAL FEATURES

The majority of diseases which involve the liver produce either (1) an interference with the excretion of bile with the development of jaundice, or (2) a disturbance of the vascular supply with the production of ascites. Before the disorder has progressed to the point where jaundice or ascites has developed, there is very frequently found an enlargement of the liver and/or of the spleen.

Inasmuch as it is frequently the first sign of the disease, one may properly begin by considering the enlargement of the liver. This increase in the size of the organ may be characterized either by a smooth even surface or by a rough irregular palpable exterior. The causes of hepatomegaly are several. The most frequent cause, by far, for the enlargement of this organ is vascular engorgement resulting from cardiac decompensation. This type of hepatomegaly, however, is not *per se* a disease of the liver and consequently deserves no further consideration in this type of discussion.

When the organ is enlarged and presents a smooth surface, the condition results usually from an infiltration of the organ by (1) fat, (2) amyloid, or (3) pigmentary deposits which occur in connection with hemachromatosis.

A great majority of the fatty livers are found in people who have been heavy users of alcohol, and really represent the early stage of the alcoholic type of cirrhosis. Occasionally, however, one finds a rather large smooth liver in a person without a history of alcoholic consumption. Some of these livers, after a variable period of time, develop into a true pigment cirrhosis, the fatty infiltration merely being a forerunner of the actual fundamental disorder. In other instances inadequate or improper diet with pronounced vitamin deficiency accounts for the fatty type of hepatomegaly.

Amyloid disease is much less frequently encountered now than it was just a few years ago. The cause for the decrease in the frequency of its occurrence today is the fact that we less often see the protracted cases of tuberculosis and chronic sepsis which are the diseases in which the amyloid conditions are commonly found.

Irregular or nodular hepatomegaly is also found in a variety of different disorders. The most common cause of such enlargement of the liver is cancer. The original site of the growth is usually in the gastro-intestinal tract, the involvement of the liver resulting from secondary invasion of that organ by metastasis from the primary lesion. The enlargement in such cases occurs comparatively rapidly—over a period of a few weeks. The neoplasm frequently grows into the veins of the organ, ruptures into the blood stream, and spreads rapidly by the hematogenous route to many parts of the liver. The concomitant pressure on the veins produces a congestion which adds to the rapid enlargement of the organ.

Primary malignancy of the liver does occur, but it is a rather rare form of neoplasm.

The next most frequent cause for nodular or irregular enlargement of the liver is syphilis. Occasionally a considerable degree of luetic involvement of the liver exists for a long time without giving rise to any signs or symptoms of liver disease. The usual lesions found in syphilitic involvement of the liver consist of multiple gummata scattered through both lobes. At first the organ is enlarged and presents an irregular palpable surface. As the process continues the liver contracts and steadily diminishes

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in size until it is a very small, quite irregular mass, consisting almost entirely of accumulations of fibrous tissue with very little of the liver structure intact. The organ at the final stage is spoken of as the hepar lobatum; associated with the latter condition, there is jaundice, ascites, and all the indications of hepatic insufficiency.

Liver abscesses are another cause of the irregular or nodular form of hepatomegaly. The type of liver abscess which is most frequently encountered is that associated with amoebic infections. While this type of lesion is usually considered as being a single abscess, much more often these abscesses are really multiple. This type of hepatic abscess is in most instances a medical problem and should be treated as such. Experience has proven that it is only seldom necessary to evacuate them, as in the vast majority of cases they melt away under the administration of emetine hydrochloride. When any surgical procedure is indicated, aspiration is the method which should be employed.

Pyelophlebitic or septic abscesses occur as a complication of septic processes existing elsewhere in the body. There is associated with the gradual enlargement of the liver: high irregular fever, chills, sweats and jaundice. The abscesses in this condition are also multiple and, of course, contain purulent material. The condition is due to an infection caused by either staphylococci, streptococci, or some other pus-producing organism and is frequently benefited by the sulfonamid drugs.

Hydatid cysts are seen much less frequently in this country than any of the conditions previously named. It practically never occurs in a native born American, but is usually found in Syrians, Greeks, or Australians. The disease is contracted from sheep-dogs. The treatment of this condition is, of course, surgical. The important thing to remember in this connection is that before the cyst is aspirated, it should be injected with a 10 per cent solution of formaldehyde. After a fifteen minute period of waiting, the cysts may then be aspirated without so much danger of spreading the disease to uninvolved tissue.

As regards the enlargement of the spleen, it may be said that when splenomegaly is found one should think of liver disease and examine carefully for an enlargement of that organ. However, the spleen may be enlarged for as long as ten to fifteen years before the symptoms suggesting the presence of the associated liver disorder manifest themselves.

When one is thinking of or suspecting the presence of liver disease, it is a wise policy, when possible, to have the lower end of the oesophagus examined for the presence of varices in that region.

ASCITES

In order to understand and appreciate the mechanism through which the development of ascites occurs, one must take into consideration certain phases of the physiology of the liver.

The fact is that the liver is the chief manufactory of the plasma proteins of the body. In that organ at least a large part of the fibrinogen, a considerable quantity, if not all, of the serum albumin, and the greater part of the serum globulin are produced. In diseases of the liver the production of the plasma protein is interfered with and, in the course of time, hypoproteinemia will develop. With the occurrence of hypoproteinemia the normal fluid balance of the body must be disturbed. As the disease of the liver progresses and the fibrotic changes occur, the factors responsible for the development of portal obstruction are obtained. One may easily see that with the increased vascular pressure in the liver, on the one hand, and a lowered plasma protein in the vessels, on the other, the filtration of large quantities of fluid into the peritoneal cavity is an inevitable consequence. Thus ascites is produced.

JAUNDICE

Under normal circumstances the life of the red blood cell in the body is approximately thirty days. There is, of course, the constant production of erythrocytes to replace those that have existed their expected time and are undergoing disintegration. This breaking down of the red cells occurs in the reticulo-endothelial tissues, especially the spleen. In these same tissues the hemoglobin, which is liberated is split into globulin and hematin. The hematin is further divided into the iron-containing element, hemosiderin, which is conserved by the body for the manufacture of fresh hemoglobin, and the pigment substance bilirubin. The bilirubin which is thus turned loose in the blood stream is normally removed from the circulating blood by the liver cells, being excreted in the bile and conveyed into the intestinal canal by way of the bile passages and common duct. Here some of the bilirubin is converted into urobilinogen. This latter substance is in part absorbed from the intestinal tract and is conveyed

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by way of the blood stream to the kidneys where some of it is eliminated in the urine. The uneliminated portion is taken up by the liver and is re-excreted in the bile, the process continuing as an uninterrupted cycle. Any part of the bilirubin not converted into urobilinogen undergoes hydrolysis and is changed first into stercobilinogen and then into stercobilin. This latter substance is eliminated in the stools and gives rise to most of the color possessed by the movements. The above described cycle of events is continuous and effective, unless some pathological process interrupts it at some point in its progress.

The amount of bilirubin normally existing in the blood is 2/10 to 6/10 mgm. per cent. An appreciable increase in the amount of bilirubin in the circulating blood gives rise to jaundice irrespective of the cause of its accumulation.

The production of jaundice is accomplished by any one or a combination of the three following conditions:

(1) Conditions causing an excessive degree of hemolysis of the red blood cells (hemolytic).
(2) A widespread damage to or destruction of the liver tissue (parenchymatous).
(3) Obstruction to the bile ducts (obstructive).

While these three types of jaundice may be described separately and distinctly, in reality they are more frequently seen in combination. For example, any toxic condition which brings about such a marked degree of hemolysis as to produce jaundice very frequently causes some degree of hepatitis with the failure of the liver cells to eliminate the bilirubin as they should. On the other hand, any obstructive process involving the bile ducts over more than a very short time is likely to produce by back pressure a degenerative change in the liver cells with the same result as indicated above.

These facts add to the confusion of the picture and make more complicated and perplexing the interpretation of the laboratory data as well as the clinical picture presenting.

LIVER FUNCTION TESTS

The purposes of the various tests used in studying liver disease are: first, to determine the depth of, and the variations in, the degree of jaundice as well as its type or cause; second, to ascertain the functional capacity of the liver in performing certain of its physiological functions; and, third, to establish the extent of the damage to, and the degree of inflammation involving, the liver cells. Upon the basis of the results of these tests certain helpful, but not very conclusive, opinions regarding the prognosis in the given case may be obtained.

LIVER FUNCTION TESTS RELATING TO JAUNDICE

The tests relating to jaundice involve an examination of the blood, stool, and urine. The substance to be tested for or quantitatively determined in the blood is bilirubin, while in the stool and urine both bilirubin and urobilinogen may be identified and quantitatively estimated. Of the tests applying to the blood, there are two principal ones.

The first test to be considered is the *icteric index*. This test consists of a comparison of the blood serum of the patient with a color standard solution. Two to eight units is considered the normal, while eight to fifteen units reveals latent jaundice, and fifteen units or more indicate definite clinical jaundice. This is a very satisfactory and reliable test. It may not be relied upon, however, in the presence of an existing carrotinemia.

By means of the Van den Bergh test one may determine either qualitatively or quantitatively the presence of bilirubin in the blood. There are two main types of reaction: the direct and the indirect. The direct reaction (qualitative test) may manifest itself in any one of three forms: (1) the immediate, (2) the delayed, or (3) the biphasic type of response. The quantitative test is the same as the indirect Van den Bergh. It gives exactly the number of mgm. per cent of bilirubin in the blood. Two-tenths to six-tenths mgm. per cent is considered the normal range.

Type of Jaundice	Van den Bergh Reaction
Hemolytic	Indirect
Parenchymatous	Direct (delayed or biphasic)
Obstructive	Direct (Prompt)

There is no test for urobilinogen in the blood.

As a means of determining the presence of the bile elements in the stool, the color of the feces is a very satisfactory procedure. It is possible to determine quantitatively the amount of bile elements present in the stool. The Watson test will give the amount of urobilinogen present in the twenty-four hour elimination. The Speckman procedure consists of the determination of the amount of the urobilinogen in 5 gm. of the feces, from which figure the

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Van den Bergh			
Direct			Indirect
Immediate	Delayed	Biphasic	
1. Normal bile	1. Serum of parenchymatous jaundice	1. Serum of parenchymatous jaundice	1. Normal serum
2. Serum of obstructive jaundice			2. Serum of hemolytic jaundice
			3. All sera giving direct reaction

quantity contained in 100 gm. of the stool can be determined. The normal is considered 100 to 250 mgm. per 100 gm. of feces. These tests are quite complicated and technical and are therefore of very little practical importance.

As regards the urine, the presence of bilirubin can be detected quite satisfactorily by the Foam test. The spot test may be employed, but it adds very little information.

There are several satisfactory tests for the presence of urobilinogen in the urine, but the one suggested is the Watson test. This is comparable to the test of the same name used to determine the quantity of urobilinogen in the stool. The amount excreted in twenty-four hours in the normal person is between ½ and 2 mgm. This test also is too technical to be of any significant value in general practice.

The outline above illustrates roughly the quantity of bilirubin and urobilinogen in the blood, urine and stool in the several types of jaundice as compared to the amount found under normal circumstances.

TYPE		BILIRUBIN	UROBILINOGEN
Hemolytic Jaundice	Blood	two plus	no test
	Urine	none	two plus
	Feces	one plus	two plus
Obstructive Jaundice Complete	Blood	two plus	no test
	Urine	two plus	none
	Feces	none	none
Obstructive Jaundice Incomplete	Blood	one plus	no test
	Urine	one plus	none to one plus
	Feces	none to one plus	none to one plus
Parenchymatous Jaundice	Blood	two plus	no test
	Urine	two plus	two plus to none
	Feces	one plus	one plus to none

To be of any value, all tests relating to jaundice must be done serially, inasmuch as their significance lies very largely in the trend of the curve from time to time and not the reading at any particular examination. It is advisable to repeat the tests every second day, so that any variation in the degree of jaundice may be ascertained. For example, an obstructing common duct stone as a rule shifts from time to time, allowing the discharge of bile and changes in the amount of retained bile pigment. In carcinomatous obstruction of the biliary passages the persistence of the jaundice is steady or progressive and no appreciable decrease in the icteric index or the quantitative Van den Bergh occurs at any time.

SECRETORY FUNCTION TESTS

The test to be considered in this group is the Bromsulfalein Test. By this procedure, one determines the rate of elimination of the dye which, under normal circumstances, is removed from the blood by the liver very rapidly and effectively. Apparently the reticulo-endothelial system plays a very important but unexplained part in the elimination of this dye from the blood stream. The technique of the test consists of giving the patient intravenously 2 mgm. of the bromsulfalein per kilo of body weight and collecting specimens of blood at the end of five minutes and a half hour following the injection of the dye. In the presence of a normal liver, the first specimen shows that 95 per cent or more of the dye has been eliminated, while the second reveals that its complete removal has been accomplished.

This test should not be used in the presence of jaundice, because it can not be satisfactorily interpreted under that condition.

This is a very helpful test in the diagnosis of cirrhosis of the liver; is a comparatively simple one to perform; and should be used in cases presenting evidence of liver damage without jaundice.

SUGAR METABOLISM TESTS

1. Glucose.
2. Levulose.
3. Galactose.

The galactose test is the only one of the three which is worth very much. It consists of giving by mouth 40 grams of galactose diluted in 300 cc. of water. Collect the urine at hour intervals for five hours. Remove the dextrose by fermentation and then determine the quantity of galactose excreted. The normal liver will allow the excretion of less than three grams of galactose in five hours. In conditions in which the liver is damaged the amount of sugar excreted will be greater. The difficult thing in the evaluation of the test is the fact that the rate of absorption of galactose varies much in normal individuals, so that the results may be confusing. Theoretically, at least, it is a good test and should be employed. An intravenous modification may make it more popular in that the absorption error can thereby be eliminated.

FAT METABOLISM TESTS

1. Total cholesterol—150 to 220 mgm.
   a. Free fraction—34 per cent.
   b. Ester fraction—66 per cent.
2. Phospholipids.
3. Total lipids.

In obstructive jaundice the total cholesterol is increased; the partition, however, is normal.

In the parenchymatous jaundice, the total cholesterol is normal. The partition in this condition is reversed, so that the esters constitute 34 per cent and the free fraction 66 per cent.

PROTEIN METABOLISM TESTS

These tests consist of the following:

1. Total serum protein: the normal value 6 to 8 gms. per cent.
2. The albumin-globulin ratio; the normal A/G = 2.5 to 1.
3. Takata Ara. This is not important except in advanced cirrhosis.
4. Cephalin—Cholesterol.
5. Colloidal gold.

NON-CLASSIFIED

1. Phosphatase.
2. Prothrombin time.

The first of the protein metabolism tests, of course, takes into consideration the fact that the greater part or all of the plasma protein is manufactured in the liver and a very large part of it is stored in the hepatic cells. Any pronounced inflammatory or destructive lesion involving the parenchyma of the liver would, therefore, most probably result in the failure of the organ to manufacture and store the plasma protein. Under such circumstances the plasma protein in the circulating blood will fall below its normal value of 6 to 8 gms. per cent, despite an adequate protein intake.

The second of these tests is based upon the fact that the normal albumin-globulin ratio of 2.5 to 1 is frequently reversed in those conditions in which the destruction of liver cells occurs or the function of these cells is considerably disordered.

The Takata Ara test is of no great importance. It was introduced with the idea that it would be very specific in differentiating the types of liver disease. It is not a specific test, as experience has proved, but it is one which can be relied upon to determine serious damage to the liver cells.

The cephalin flocculation test may be described in brief as consisting of adding an emulsion of cephalin and cholesterol to diluted serum and noting the degree of flocculation and precipitation after twenty-four and forty-eight hours.

The conclusions of Hanger and Patek are:

"1. The ultimate prognosis in patients with Laennec's cirrhosis showing persistently strong reactions is not favorable irrespective of apparent clinical improvement.

"2. Progressive decrease in the intensity of the cephalin flocculation reaction often accompanies clinical improvement and a return of blood proteins to normal. Relapses in this group are relatively uncommon.

"3. A negative reaction does not exclude the diagnosis of cirrhosis. However, patients with persistently negative tests tend to have a relatively favorable course.

"4. The intensity of the flocculation test does not parallel the presence or absence of ascites in cases of cirrhosis of the liver. However, no cases of alcoholic cirrhosis with jaundice have been encountered giving a negative reaction."

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The prothrombin time is made use of as a test for liver function in that prothrombin is a product of the liver cells. In conditions in which there is much damage to the liver cells the production of prothrombin will be impeded and the prothrombin time of the blood increased. If the prothrombin time is unduly prolonged in the presence of jaundice the following test may be employed: a precursor of prothrombin is administered to the patient parenterally, following which the test is repeated. Should the prothrombin time still be prolonged, damage to the liver cells may be assumed.

TREATMENT OF LIVER DISEASE

The important single thing in regard to the medical treatment of liver disease is the consideration of the protein stores in the liver cells. For a long time it was thought that the carbohydrates were the important feature and that to push the carbohydrate intake was the most important curative and protective factor. Experience has proven that the carbohydrate is secondary and that the protein reserve in the liver cells is the primary consideration in the therapy of the diseases under discussion. It has been proved by Whipple and others that the livers of animals fed on a high fat, low carbohydrate and low protein diet rapidly increase in their lipid content. The same thing is true in starvation or when the animal is fed on a carbohydrate diet without protein. Interesting enough, this increase in liver lipid occurs when the animals are fed on a diet lacking in the normal percentage of vitamins. Experiments done on fasting rats show that after twenty-four hours the glycogen store in the liver is reduced as much as 33-1/3 per cent. After a period of forty-eight hours of starvation the glycogen reserve is reduced 50 per cent of the normal. At the same time, it was found that in the first twenty-four hours the lipid content of the liver was increased 100 per cent over the normal quantity.

It has been proven that certain types of diets will result in a high concentration of fat with low glycogen stores in the liver, while other types of diets will produce an increase in lipid with low protein reserves in that organ.

In those conditions in which there is an increased lipid content of the liver, the organ is much more susceptible to disease. Adequate feeding of carbohydrate does very little in the way of protecting the organ under that circumstance. On the other hand, a diet rich in protein or certain amino-acids, notably cystine and merthionine, reduces the lipid content and decreases the susceptibility to disease or intoxication.

From this discourse one can visualize the steps leading to the development of alcoholic cirrhosis and can formulate the appropriate method of treatment for that disease. The large quantities of alcohol, the loss of appetite, the limited food intake, the inadequate vitamin ingestion, all favor the development of the fatty liver, which later undergoes fibrosis producing ascites and other indications of hepatic insufficiency.

The treatment must, therefore, consist of (1) an adequate diet, especially as regards the high protein percentage, a moderate carbohydrate portion and a low fat fraction. Second, vitamins of all kinds must be given in large amounts: both A and D should be given in big doses; vitamin C in quantities up to 400 or 500 mgm. daily; vitamin K *per os* or parenterally, 6 to 8 mgm. daily; and vitamin B-1, 30 to 100 mgm. daily. The other B fractions should also be given in quantities adequate to assure proper metabolism.

The total caloric intake should be 3,500 to 4,000 calories daily. A suitable formula for the diet would be: Carbohydrate 70 per cent; Protein 25 per cent; Fat 5 per cent.

The high protein portion may be made up by the use of casein, cottage cheese, bananas, egg whites, skimmed milk, all of which may be supplemented by the addition of the amino-acids, cystine and merthionine.

If the liver damage is not too great, even if hepatomegaly and ascites are present, marked improvement may occur following this line of treatment.

If the damage to the liver has progressed to the point that there is a marked hypoproteinaemia due to disturbed hepatic function, the outlook is not so good. Under such circumstances, the forced feeding of proteins will accomplish very little, inasmuch as the liver's capacity for manufacturing the plasma protein is much diminished. Even though the tissue proteins may be restored to normal, as would be indicated by the presence of a normal nitrogen balance, no means other than the transfusion of plasma could be expected to elevate the concentration of the plasma protein in the blood.

It is obvious, too, that in the treatment of any other liver disease, in preparation for operation especially on the gastro-intestinal tract, and in the

course of any infectious or toxic process, adequate protein and vitamin intake must be assured in order to prevent a toxic hepatitis or degenerative lesions of the liver.

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PHYSICIAN, PRESCRIBE *

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The title I have been assigned really addresses this paper to our good friends and associates—the physicians—yet it is hoped that it may also serve in some small way to enlighten and inspire the pharmacists. To the latter, one thing must be made clear at the outset: they are not beggars coming for the crumbs from the medical table; they are, or should be, professional people cooperating to the fullest extent with the physician, dentist, and other public health agencies.

The title also bears the partially incorrect implication that the doctor does not prescribe. We realize that nearly 240 million prescriptions are written annually, but should there not be many more replacing the frequent verbal instructions to purchase certain medications? Other than a possible philanthropic desire to improve the economic status of the druggist, are there any reasons the doctor should use those prescription blanks you have placed on his desk? Unquestionably, the answer is "Yes, many reasons." Fantus has said, "The prescription is the keystone to the entire arch of therapeutic endeavor." It is my purpose today to point out the reasons for writing prescriptions and discuss them briefly with you.

First, let us consider concurrently what is probably the greatest advantage a physician has—prestige; and the greatest evil he faces—self-medication. What do these have to do with the question at hand? When a doctor says to a patient, "Go to the drug store and get yourself some XYZ tablets; you'll be all right," he often forfeits his prestige. We are all hypochondriacs at heart, and when we pay a fee for treatment we do not want our ailments to be regarded lightly, no matter how inconsequential he knows them to be. Self-medication goes hand in hand with this, for every druggist knows what happens the next time that patient feels badly. He does not return to the doctor, but buys more of the same remedy and takes it as previously directed. What, then, are the net results? (a) So far as the physician is concerned he has probably sold his prestige for an office fee, and he may also lose prestige with the patient's friends who learn of the case. (b) So far as the customer is concerned, the doctor has encouraged self-medication which may lead to disastrous results at some future time. Every druggist knows many "addicts" who began their constant self-

*Read in the Section on Professional Pharmacy of the Virginia Pharmaceutical Association at Old Point Comfort, Va.

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treatment in just the way described. (c) What of the pharmacist? He knows he will very often make more money in the long run when a physician starts a patient on the road to self-medication, so his complaint does not have an economic basis. Why, then, does he fuss about this sort of thing? He complains because he wants to exercise his professional skill, because he wants to be a friend of the doctor, because finally he *is* a professional man behind all those rows of merchandise—material he is forced to stock partly because the physician has not always been anxious to cooperate.

Second, a written prescription handed to a patient carries with it a psychological value obtainable in no other way. Why? The patient feels he is receiving the benefits of the physician's specialized training because he has tangible evidence of the same in "that most precious piece of paper" he is given. To him, that may seem to represent a matter of life and death, even though it be only for A.S.A. He feels also that he has received a "tailor made" medicine prepared especially to suit his ills. One way the doctor can test this statement is to ask the druggist what Mrs. Jones thinks about his bills for calls when he merely left advice and "didn't even write a prescription."

Third, a written prescription is often cheaper to the patient than many proprietaries furnishing approximately the same medication. It is not difficult to write a prescription of the same composition as almost any specialty on the market, and the chances are it will save the patient money. For example, a well-known substitute for 1 per cent chrysarobin ointment costs the druggist $1.67 for two ounces, but he can sell the original article to the patient for 75c. Also, a popular isotonic ephedrine proprietary can be duplicated for the patient at one-third less than the commercial article can be sold. The many specialty tonics of the I. Q. & S. type are other examples. It is granted that occasionally, but infrequently, the patient pays more when a prescription is written, though even then some increase is justifiable for reasons of greater safety, cost of container, labeling, etc.

Fourth, there is another very definite safety factor involved in writing prescriptions. Who is to give the final check on the safety of dosage, and how can the physician control the amount purchased without writing a prescription? Recently a doctor, perhaps in haste, wrote for 100 grain and a half digitalis tablets to be taken t.i.d.p.c. et h.s. What might have happened to the cardiac patient who received it had not the druggist noticed that error? A Richmond pharmacist not long ago received a prescription for several capsules of a codeine medication, each containing five grains of the alkaloidal salt. Suppose these had not been prescription items, as often they are not; what would have happened?

Fifth, the patient may err in transmitting the name of the preparation to the druggist. Let the doctor ask any pharmacist how frequently this occurs. Despite a surprising aptitude for recognizing twisted terminology, the druggist might miss his guess and sell the wrong medicine. By way of example, consider the fatalities which have resulted from confusing Laxol and Lysol, or Cascarets and Mercurettes.

Sixth, the warnings and dosages required on labels by the new federal law may make the patient very apprehensive when he sees them. His reaction sometimes is that the doctor may be either careless or ignorant; careless because the label says the medicine is to be used only under the strict supervision of a physician, and ignorant because the stated dose is usually less than he has been told to take. Recently a physician told a lady to get twenty-five Three Bromides tablets and take one every *three* hours during the day. Upon opening the package, she found that the label said, "Direction—*One* dissolved in half a glass of water; repeat in three hours if necessary. Do not take more than two products in twenty-four hours—WARNING—Excessive dosage may in some instances lead to skin rash, mental disturbances, and other serious effects." Consider also what the patient thinks when he is instructed to buy an ounce of a well-known isotonic Ephedrine solution and finds this on the label: "Excessive dosage or prolonged use may cause nervousness or sleeplessness; should not be used where there is high blood pressure, heart disease, diabetes or thyroid disturbances, except as ordered by the physician." That last phrase might have been intended to allay any fears the patient would have on reading the label, but it does not always serve the purpose, as any druggist can testify.

Seventh, it is rather a sad commentary on human nature, but very true, that even the more intelligent patients often "shop for bargains" when given verbal instructions. It is also unfortunately true that there exists a certain class of stores in which substitution

is emphasized. Very often a verbal instruction is not followed because the patient has the misfortune to encounter this type of druggist. We in pharmacy dislike this evil as much as the medical man, but until we find a remedy the only cure is prescription writing, and possibly recommendation of suitable stores to the patient.

Eighth, we may ask the doctors whether they prefer to see a definite quantity of medicine of known composition dispensed with adequate directions for use, or an indefinite quantity with inadequate directions? The procedure of choice is obvious.

Finally, the physician may belong to that small class of medical men who prefer to do their own dispensing. What do they gain, other than a larger investment in office supplies? Perhaps they feel assured of secrecy this way, but do they know how frequently their patients visit the druggist with some of the medicine they have been furnished and plead for more in order to save a fee? This is not ethical, but if the physician insists on taking the pharmacist's business, how many will be so superhuman as to try to cooperate with such medical men? Also, the dispensing doctor has the problem of drug deterioration to consider, with a very definite loss involved in some cases, and perhaps harm to the sick. Of course, the patients cannot know much about this, but it surely does not help a reputation for results. Thus it seems the physician loses in at least two ways by doing his own dispensing; first, due to the large investment and deterioration of stock, and secondly, through the loss on "dead-beat" patients. The confidence and cooperation of the druggist which will still be frequently needed is also lost. One young physician of my acquaintance was rapidly converted from dispensing to practicing when he realized that in one particular case he had collected exactly $8.00 for some twenty office calls during which time he had administered $32.00 worth of a certain preparation. It took a year to get the $8.00. He finally gave the account to a credit agency, and at last reports they had not yet recovered all the balance. Assuming they did collect the total, they would take half, leaving for the physician nothing but ill will and a net loss of more than $12.00 plus his time and trouble. It does not take an accounting expert to show that the doctor rarely, if ever, gains any extra money by doing his own dispensing. Since secrecy is only partially obtained, his efforts are in vain.

Now we cannot claim that all druggists are saints. We realize it may be necessary to recommend certain stores when a prescription is written. This should be perfectly satisfactory to us, provided an effort is made to determine which are the better pharmacies in the community. For the bad ones we must apologize; to the good ones we can point with pride. Bethea has said, *"Prescribing is the final expression of a physician's effort in the treatment of disease.* Without the ability to prescribe intelligently, pathology, diagnosis, therapeutics, and all else in practice is almost useless." The doctor should not fear the druggist's criticisms, but ask him to come to the office, or go around and see him for his help. The pharmacist can aid the physician immensely in selecting the most suitable form for administering a given medicament, and he can help select the best vehicles to carry the medicines so they will be the most palatable to the patient. That "corner scientist" should be the doctor's friend, ready and anxious to serve.

* * *

Now let me be bold enough to say a word or two directly to the pharmacists. My few years in a drug store convinced me that as a group, druggists are the most uncooperative people in the country. When taken to task for this trait, they alibi with mumblings of lack of time, ill treatment by both physicians and other pharmacists, etc., etc., *ad infinitum.*

It is time we got down to a careful searching of our own souls, to separate so far as possible the dross from the pure gold of our profession. Your presence here today is evidence that you have an innate desire to improve yourselves and to improve pharmacy. We have made much progress in recent years, but we still have far to go.

Specifically, let us concentrate on two things:

1. Detail your local physicians regularly, energetically, and above all, intelligently. Show them how you can better serve both them and their patients, and prove to them that you really subscribe to the A. Ph. A. Code of Ethics.
2. Find ways and means of obtaining high grade professional publicity for pharmacy in general, then make your stores look like they deserve it. Regrettable but true it is that many do not have that appearance today. The publicity may be cooperative advertisements stressing the part you play in the Public Health Program, or it

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may take the form of talks before various lay and professional groups, even as young as high school pupils.

Emerson once said, "Nothing great was ever achieved without enthusiasm." That very desirable element is abundant here; let us absorb large quantities of it now, then put it to work the year around at home.

FELTY'S SYNDROME.

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In 1924, A. R. Felty reported five cases presenting the unusual syndrome of chronic arthritis in the adult, splenomegaly, and leukopenia.[1] Since then, fourteen similar cases have been described[2] and another is herewith added.

CASE REPORT

A forty-six-year-old white Virginian, formerly a carpenter, came to the medical service in November, 1940, complaining of painful, swollen joints of twelve years' duration.

His life had been spent in the southeastern states. In 1920 he had "influenza and double pneumonia". He denied malaria, typhoid fever, gonorrhea, and syphilis. There was no family history of rheumatism.

Until 1928, he had been in excellent health. Without preceding illness, upper respiratory infecton, or sore throat, he developed sudden severe pain in the muscles of his right upper arm, lasting three days. Two months later, there was very intense pain in the ball of the right foot lasting two weeks. Subsequent attacks ultimately involved every joint but the spine. There were, at first, periods of weeks of complete freedom from pain. Residual stiffness and pain slowly became more diffuse and pronounced following each attack. Joint swelling and pain were sometimes slight, sometimes marked. By 1934, he was no longer able to work because of practically constant disability of hands and feet, but was ambulant with the aid of a crutch. Sinus irrigations, tonsillectomy, extraction of all teeth were without effect. By 1937 he was completely bed-ridden each winter, and his leukocyte count was 2,400. He had an ulcerative stomatitis with scar contractures about the tongue. For fourteen months before admission he was confined to wheelchair and bed, except for infrequent brief intervals when he felt well enough to hobble about his room on crutches. He had lost sixty pounds by 1940, most of it in the two preceding years, and had become very asthenic. Since 1939, weight had been stationary. His appetite always had been excellent.

Physical Examination: Cachectic male, with marked generalized muscular atrophy. Weight, 104 pounds. No pigmentation of the skin. B. P. 100/60.

Nose and throat negative. All teeth absent, tonsils cleanly removed, tongue partially bound down by scar tissue. Sinuses transilluminate well. Lungs clear. Heart not enlarged, sounds distant, no murmurs, rhythm regular. A firm, non-tender spleen extends 12½ cm. below the costal margin in the mammillary line. Liver not felt. One small epitrochlear node on the right, five small nodes in the right axilla, and a few larger inguinal nodes. Prostate small, firm, not tender.

Right shoulder normal, left moderately tender but normal in range of motion. Elbow joints have moderate soft tissue swelling, are painful, tender, with extension limited to one hundred and thirty-five degrees. Slight swelling of the dorsum of the right hand, and wrists quite restricted and painful on motion. Most of the fingers fixed in extension, with a forty-five degree flexion deformity at the metacarpophalangeal joints and moderate ulnar deviation; tender, painful on motion, and moderate fusiform swelling of the third and fourth fingers of both hands. Subluxation of interphalangeal joint of right thumb. Palmar surface of finger tips, thenar and hypothenar eminences are a very bright pink. Knees cannot be extended beyond 150 degrees, are moderately tender, as are also the ankle joints which are slightly swollen, tender, and painful on restricted motion. Small bones of feet and toes are tender and painful, the lower extremities cyanotic and cold.

Laboratory data: Erythrocytes— 4.44 millions. Hemoglobin— 12.7 grams. Leukocytes— 1,700. Stained smear— segmented polymorphonuclears, 52 per cent; unsegmented, 4 per cent; lymphocytes, 38 per cent; monocytes, 6 per cent. Polychromatophilia and moderate anisocytosis. Reticulocytes, 0.2 to 4.2

per cent. Platelets, 96,000 to 113,000. Mean corpuscular volume, 75.4 cu. micra. Color index, .98. Bleeding and clotting times, two minutes.

Kahn and Eagle negative. Agglutination tests for typhoid, paratyphoid, typhus and undulant fevers negative. Gonococcus complement fixation test negative. Culture of prostatic fluid negative. Three blood cultures negative. Culture of an excised epitrochlear node negative. Microscopically, it showed chronic lymphadenitis. Stools negative for amoeba, ova, and parasites.

BLOOD PICTURE DURING COURSE

	Hb.	Rbc	Wbc	Polys	Bands	Lymphs	Monos.	Basos	Eos.
November 4, 1940	12.7	4.44	1700	52	4	38	6	–	–
November 7, 1940	–	–	2050	45	8	40	–	2	1
November 14, 1940	–	3.90	1800	46	8	38	8	–	–
November 19, 1940	–	–	1950	16	10	72	1	–	1
November 27, 1940	–	–	1900	33	–	65	2	–	–
December 2, 1940	12.3	4.24	1500	19	–	80	1	–	–
December 9, 1940	13.7	3.97	2500	27	2	66	5	–	–
December 12, 1940	13.2	4.21	3700	34	3	58	–	2	1
December 18, 1940	13.4	3.87	2000	–	–	–	–	–	–
December 20, 1940	–	–	2400	–	–	–	–	–	–
January 6, 1941	13.3	4.20	1500	28	–	68	2	–	8
January 17, 1941	12.6	–	4000	67	3	25	2	–	3
February 17, 1941	13.9	3.98	3250	65	–	30	3	–	2
March 11, 1941	13.5	4.32	2050	57	–	41	2	–	–
April 21, 1941	13.5	4.91	2400	48	–	46	3	–	3

Sternal bone marrow biopsy showed a fat to cell ratio of about one to one. However, the cells were much less compact than is usually seen. Erythropoiesis was prominent and active. There was slight hypoplasia of the myelogenic series. Numerous 'blast cell forms were seen, however.

A differential cell count was done on the bone marrow tissue preparation; hemocytoblasts 4; myeloblasts 10; myelocytes 15; band forms 14; mature polymorphonuclears 10; megakaryocytes 2; normoblasts 20; erythroblasts 4; erythrocytes 21.

Red blood corpuscle fragility test normal. Icterus index 5. Serum bilirubin 0.4 mg. per cent. Urine normal, no urobilin. Gastric analysis: no free hydrochloric acid after histamine; total acidity thirteen degrees.

Glucose tolerance test: fasting, 92 mg. per cent; one hour, 140 mg. per cent; two hours, 130 mg. per cent; three hours, 102 mg. per cent; four and one-half hours, 87 mg. per cent.

The bromsulphalein test for liver function was used and showed: after thirty minutes, less than 10 per cent retention; after one hour, less than 10 per cent retention.

Blood urea nitrogen 8.1 mg. per cent; non-protein nitrogen 29.7 mg. per cent; uric acid 0.6 mg. per cent; total plasma proteins 6 per cent; albumin 3.5 per cent; globulin 2.5 per cent; calcium 9.2 mg. per cent; inorganic phosphorus 3.8 mg. per cent; phosphatase 9 mg. per cent (Bodansky units); serum cholesterol 164 mg. per cent.

Blood smears for malarial parasites were negative.

Electrocardiogram: T_1 low, T_2, T_3, T_4 upright. Low voltage.

X-rays: Sinuses: very slight haziness of antra.

Chest: heart and lungs normal.

Joints: joint spaces of elbows considerably decreased, some osteoporosis; considerable osteoporosis, irregularity and roughening of articular surfaces of both radii; some loss of joint space between carpal bones with tendency toward fusion; metacarpal and phalangeal joints show decrease in joint space, roughening, and irregularity of articular surfaces; knee joints show osteoporosis, some loss of joint space and roughening of articular surfaces; ankle joints normal except for rather marked osteoporosis.

Course: Essentially afebrile, except for two brief episodes of mild sinusitis and two periods of moderate diarrhea, stool culture showing B. Morgani.

The patient received a high caloric diet, adequate in vitamins and minerals. In the third week, he was given sulfathiazole for two weeks, with a fairly stable blood level averaging 6 mg. per cent. Coincidentally, he began to feel better, to gain weight, and joint pains lessened.

Casts were intermittently applied to the hands. Attempts at intramuscular liver injections for leukopenia were quickly discontinued because of the patient's strenuous complaints of resultant pain.

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At the seventeenth week, 200,000 units of Vitamin D as irradiated ergosterol in neutral oil were given daily, orally. Physio-therapy was begun, in the form of warm baths, massage, and passive motion. At the nineteenth week, Vitamin D was increased to 250,000 units daily. He gained weight and strength quite rapidly during this month.

At the end of five months, he had gained twenty-six pounds. B. P. 114/82. He felt and appeared much better, requiring only occasional codeine and aspirin for moderate joint pains, and was able to manipulate a wheel chair several hours daily. Wrist motion was painless, only moderately limited. Fingers moved almost normally at the metacarpo-phalangeal joints, but several were fixed in hyperextension at proximal and distal interphalangeal joints, sublaxation appearing imminent. Knees and ankles moved normally without pain. Toes were no longer painful on motion although the balls of the feet were somewhat tender. Cyanosis of the legs was much less marked. Sedimentation rate had declined from a diagonal curve of 28 mm. in one hour to a diagonal line of 10 mm.

REVIEW OF LITERATURE

Of the cases reported, nine were males and eleven females. At the onset of arthritic symptoms, the ages of the former varied between thirty-four and sixty-five years; of the latter, between twenty-four and fifty-seven.

Arthritis: When the various case reports were made, arthritis had been present eight months to twenty-four years. In onset and course, its character was indistinguishable from that of an average group afflicted with chronic rheumatoid ("proliferative" or "atrophic") arthritis. There were mild to severe repeated attacks of articular pains lasting days to months, involving one or many joints at a time, sometimes accompanied by signs of acute joint inflammation and short periods of moderate, rarely pronounced fever. Hands, elbows, shoulders, knees, and feet suffered most frequently and severely, but no joint was immune. Intervals between attacks lasted days to months. Usually, pain of slight to moderate intensity finally became almost constant in multiple joints, with acute exacerbations and varying degrees of deformity and limitation of motion. Periarticular tissues, as well as the bony joints, were involved. In some, arthritic symptoms remained quite mild throughout, and there were no joint changes. In two cases, there was complete bony ankylosis within a year: both knees in one, a shoulder and elbow in the other.

Of twelve cases with X-ray descriptions, joint changes did not occur in two whose arthritis had been present three and eight years. In seven cases, with arthritis of eight months' to ten years' duration, there was a slight to moderate degree of infectious arthritis. Of three cases showing considerable narrowing or obliteration of joint spaces, two had mild bony overgrowth of the articular margins of some of the affected joints, the arthritic process having been present one and seven years.

Splenomegaly: There was no correlation between the degree of splenomegaly and the duration or severity of arthritis. One patient with a spleen enlarged to the umbilicus had had arthritic symptoms for eight months. Another, with spleen at the costal margin, had had arthritis for ten years. Still another had splenomegaly for five years before the onset of arthritis.

In three cases, the spleen was palpable; in three, "enlarged"; in eight, two to six centimeters below the costal margin; in five, at the umbilicus; and in one, five centimeters below the umbilicus.

Blood: All but three cases had some degree of hypochromic or normochromic anemia. The erythrocyte count varied between 2.7 and 4.98 millions; average, 3.9 millions. Hemoglobin values ranged from 49 per cent to 85 per cent, average, 66 per cent. The degree of anemia paralleled neither the leukopenia nor the duration and severity of arthritis.

The leukocyte count varied from 640 to 4,200; average, 2,300. The differential cell count was not characteristic. The cellular proportions usually were within normal limits. Occasionally, there was a relative lymphocytosis, and in the presence of severe infections there sometimes was a relative neutrophilia with an increase in unsegmented forms. In most instances, there was an absolute neutropenia, sometimes accompanied by an absolute lymphopenia. Inconstant eosinophilia, up to 13 per cent, occurred in five cases.

In three cases, platelets were moderately decreased. Bleeding and clotting times, where reported, were normal.

Leukopenia and eosinophilia both have been described in chronic polyarthritis. Eaton[3] reported a leukopenia in 22 per cent of two hundred and fifty patients and eosinophilia in 10 per cent,

There were no significant changes in the chemical constituents of the blood.

Other features: Both splenomegaly and hepatomegaly have been described in association with arthritis.[4,5] In nine cases of this collection, the liver was palpably to moderately enlarged, firm, not tender. There was no correlation between the size of the liver and the size of the spleen or the length and severity of the arthritis. Studied in three cases, liver function was normal in two. In the third, function was impaired, but was normal eight months after splenectomy.

In nine cases, there was slight to moderate enlargement of lymph nodes, usually axillary and inguinal, with epitrochlear and cervical nodes less often involved.

Yellowish pigmentation of the skin, mainly of exposed surfaces, was seen in six cases.

During the course of the disease, weight loss varied from six to one hundred pounds; average, forty-four pounds.

A striking complication in four cases was a severe ulcerative stomatitis or pharyngitis rather similar to the lesions seen in agranulocytic angina. Polymorphonuclears were present (26-62 per cent), and all patients recovered.

Of nine gastric analyses, six showed no free hydrochloric acid, and three showed normal acidity.

Glucose tolerance was decreased in two cases, normal in one.

Basal metabolic studies were variable in four cases: normal, minus 5, plus 12, plus 28.

Pathology: The bone marrow was studied in seven cases; in one, post-mortem. The erythropoietic apparatus appeared normal or moderately hyperplastic. In one case, studied after dying of acute pericarditis, there was "active myelosis throughout". In the others, the myelogenic series was variably hypoplastic. There was a predominance of promyelocytes and myelocytes, the maturer cells being fewer than usual or scanty.

The splenic picture was one of chronic, non-specific inflammation, with diffuse fibrosis, dilatation of sinuses and numerous plasma cells.

The liver showed nothing unusual. The lymph nodes showed chronic, non-specific inflammation. In one case, areas of myeloid activity were present in spleen and lymph nodes.

Examination of a knee joint revealed chronic inflammation of periarticular tissue, synovial membrane, and periosteum.

Bacteriological studies were done in more than half of the cases. In two, each had a positive blood culture, with subsequent cultures sterile. In one, streptococcus haemolyticus was found during an acute follicular tonsillitis. In the other, streptococcus viridans was found during an ulcerative stomatitis. In a third case, culture of an excised lymph node showed streptococcus viridans.

Diagnosis: There has been a tendency to report as Felty's syndrome cases which do not survive critical analysis, and these have been excluded from this report.

Before a diagnosis of Felty's syndrome can be made, three features must be present: a definite history or evidence of chronic rheumatoid arthritis, leukopenia that is shown by prolonged observation to be constant; unmistakable splenomegaly. Adequate studies must be made to rule out those cases where an unrelated arthritis fortuitously complicates the presence of splenomegaly with leukopenia, and those cases of established entities superficially resembling Felty's syndrome; e. g., subacute bacterial endocarditis, septicemia, undulant fever, malaria, aleukemic leukemia.

Treatment: To date, treatment is non-specific, supportive, and symptomatic. It is that given to any patient suffering from chronic rheumatoid arthritis.

Splenectomy was done in two cases. In one, where arthritis had been present five years, preoperative leukocyte counts ranged from 640 to 1,600. Four months after operation leukocyte counts ranged between 10,000 and 12,000, then dropped to 4,000. The patient experienced some improvement in her arthritis and general condition, maintaining her improvement for eighteen months, and then died of pneumonia.

In the second case, where arthritis had been present five years, there was no improvement in the arthritis or general condition, except for two months post-operatively, when the leukocyte count rose to normal levels. Eight months later, the patient presented a picture identical with her preoperative state.

Discussion: Widely divergent views have been advanced concerning Felty's syndrome: that it is a blood dyscrasia; that it is the result of a long-standing infection; that it is produced by some pathological process caused by a noxa simultaneously af-

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fecting joints, spleen, and leukocytes; that it is due to an infection with streptococcus viridans; that it is an uncommon manifestation of chronic rheumatoid arthritis; that it is a coincidence of Banti's syndrome with arthritis; that it is an allergic condition in which the varying individual reactivity of the different tissues is the decisive factor, with various germs playing only a provocative role.

Williams theorized from the bone marrow findings in his case, where mature leukocytes were very rare, that a maturation arrest of the leukocytes was the essential cause of the syndrome, the other factors resulting from the chronic infectious processes secondarily engrafted upon tissues whose defensive barriers had been lowered.

Against the theory of a noxa simultaneously affecting spleen, joints, and leukocytes is the case where splenomegaly was present five years before the onset of arthritis.

Against the theory of the syndrome being the end result of a long-standing infection is the case where splenomegaly and leukopenia were present when the arthritis was but ten days old.

Evidence for the streptococcus viridans theory is scanty and unconvincing.

The increasing number of cases points to more than a coincidence of arthritis and Banti's syndrome. Felty refers to Eppinger's exhaustive discussion of this syndrome, where no mention is made of the occurrence of arthritis.

Conclusions cannot readily be drawn from this small collection of cases. It is suggested, from a detailed study of the individual reports, that the evolution of Felty's syndrome may not have been similar in every instance. More cases must be studied from their earlier stages before it can be determined whether this syndrome represents a clinical entity or is merely the end result of varied factors and processes.

SUMMARY

1. A case of Felty's syndrome is presented.
2. The literature is reviewed and discussed.

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IMPLANTED EPIDERMOID CARCINOMA IN THE PELVIC PERITONEUM—
Report of a Case

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This report records a case of spontaneous rupture of a large dermoid cyst of the ovary followed nine months later by a large squamous cell (epidermoid) carcinoma in the cul-de-sac of Douglas.

We believe that the dermoid cyst contained an area of this malignant growth which was not discovered and that it was implanted at the time of rupture in the pelvic peritoneum where it increased

in size to the large tumor found at the second operation.

This case is of interest from several standpoints—first, rupture of an ovarian dermoid; second, implantation of squamous cell epithelioma in the peritoneum, and, third, the complete absence of peritoneal adhesions demonstrated at the second operation.

REPORT OF CASE

History.—A white female, aged 40, was first observed on May 18, 1940. The patient had been in fair health except for an occasional attack of indigestion, prior to this examination. She was the mother of two children, the oldest 17 and the youngest 5. Both of these pregnancies had been uneventful. The menses were not unusual, lasting from three to four days. There was no menorrhagia or leukorrhea. The patient had a good appetite and no unusual gastro-intestinal, genito-urinary, or cardiorespiratory symptoms. She had never undergone any operation and led a sedentary existence as a housewife. On the morning of May 18, 1940, the patient was suddenly seized with a severe agonizing pain in the lower abdomen, associated with some nausea but no vomiting. About an hour later she was seen by a physician and advised to enter the hospital immediately. Six hours after the onset of pain she was seen in consultation.

Examination.—The patient was a pale, apprehensive female, complaining of pain over the entire abdomen but particularly in the lower quadrants. The temperature was 101° F., pulse rate 100, respiration 22 per minute. The blood pressure was 120/80. The eyes, ears, nose, and throat were negative. The chest, lungs, and heart were normal. The abdomen was semi-rigid and was acutely tender to touch. The tenderness was most marked in the left lower quadrant. On pelvic examination a large mass was felt in the left posterior cul-de-sac.

Laboratory Data.—The urine was negative for albumin or sugar; specific gravity was 1.015, and there were 4 to 5 leukocytes per high power field. The erythrocyte count was 3,280,000, the hemoglobin 65 per cent (Sahli), and the leukocyte count 13,200; differential count showed 81 per cent polymorphonuclear neutrophils, 15 per cent lymphocytes, and 4 per cent monocytes. The blood Wassermann reaction was negative.

Diagnosis.—The diagnosis was ovarian cyst strangulated and immediate operation was advised and accepted.

First Operation, May 18, 1940.—Midline incision below the umbilicus was made. When the peritoneum was opened, the cavity was found to contain a very large amount of thick gray fluid with fat-like globules. The left ovary was the seat of a dermoid cyst which had ruptured; this cyst measured five inches in diameter. There was no adhesion to the cyst and the right adnexa, uterus, and cul-de-sac were perfectly normal. The left adnexa with the cyst and the appendix were removed. The fluid was evacuated from the cavity and the wound closed.

The pathological report was simple dermoid cyst. No microscopic examination was made.

Clinical Course.—The patient improved very rapidly following the operation. There was a moderate temperature reaction, ranging from 99° to 101° F. She was discharged from the hospital thirteen days after the operation. Her convalescence remained uneventful for about a month and then she began complaining of nausea, inability to gain weight, and general weakness. These symptoms persisted and the patient began noticing a turbid vaginal discharge. Her menses were regular, lasting for three days. In December, 1940, six months after her operation, it was noted that the patient had lost five pounds in weight. The erythrocyte count was 3,100,000, hemoglobin 65 per cent (Sahli), leukocyte count 11,200; differential count 73 per cent polymorphonuclear neutrophils, 25 per cent lymphocytes, and 2 per cent monocytes. The urine contained a heavy trace of albumin, with 5 to 10 red blood cells per high power field. A pelvic examination showed the uterus and adnexae to be normal except for a small granulating ulcer on the anterior tip of the cervix.

On January 31, 1941, the patient was seen again. She stated that she had suffered from severe rectal pain for several months and the weight loss had continued. Pelvic examination revealed an increase in the size of the cervix which had a soft shallow ulcer on the posterior lip. The uterus was involved in a fixed mass in the pelvis which filled the cul-de-sac and measured about four inches in diameter. On rectal examination this mass felt very hard and was adherent to the anterior wall of the rectum. Exploration was advised.

Second Operation.—The uterine cavity was curetted. The material thus removed as also the tissue removed from the ulcer on the cervix was reported benign. The abdomen was opened through the old scar. The stomach, duodenum, and liver were grossly

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normal. The right tube and ovary were not involved. It was noted with interest that there was no adhesion present in the entire abdomen following the gross soiling with the contents of the dermoid cyst nine months before. The large mass in the pelvis consisted of a hard neoplasm in the cul-de-sac which was adherent to a moderately enlarged uterus anteriorly and the rectum posteriorly. It was obviously impossible to remove this tumor. A small piece of the tumor was taken for microscopic examination and the abdomen closed.

This tissue was reported to be squamous cell (epidermoid) carcinoma.

Microscopic appearance of biopsy from the pelvic tumor.

On February 3, 1941, radium was inserted into the uterine cavity and radiation continued for 3,000 mg. hrs. Following this x-ray treatment was given. This consisted of exposure through four fields, 2 anterior and 2 posterior using 220 K. V. and giving 1,000 r. in each field. The filter was 2 mm. of copper. There was little change in the tumor and the patient continued to complain of rectal pain.

On March 17, 1941, nodules in the scar were noted and the weight loss had continued. Further x-ray treatment was given in this area and on April 10, 1941, intra-uterine radium was used for 3,000 mg. hrs. The superficial nodules decreased in size but no other evidence of improvement was noted. Later a rectovaginal fistula developed and the patient gradually declined. She died on June 17, 1941. Postmortem examination was refused.

DISCUSSION

Spontaneous rupture of dermoid cysts of the ovary is unusual. Cases have been reported where the rupture was not treated and fistulae into the bladder and rectum have resulted.

Malignant change in the epithelial elements are also unusual. It has been suggested that many of these cysts are only grossly examined and that the malignant growth in others has escaped detection. Estimates of the frequency of malignant change have varied from 1 to 8 per cent.

Transplantation of epithelial tissue into the peritoneum is of frequent occurrence and these transplants may be of benign or malignant nature. The best known benign implant is endometrium, and the most frequent malignant implants are from tumors of the gastro-intestinal tract and the ovaries.

The character of the cells demonstrated from this tumor seems to justify the assumption that they originated in the dermoid cyst. Unfortunately the specimen was destroyed shortly after the first operation and was therefore not available for further study. However, the pelvic cavity was carefully cleaned out and no evidence of neoplasm was discovered.

The cervix uteri was also considered as a source of this tumor. Here, however, frequent examinations failed to disclose a growth and two biopsies failed to show evidence of malignancy.

The possibilities of misplaced embryonic tissue in the rectovaginal septum and metaplasia of other epithelial tissues are possible sources which cannot be entirely excluded.

The evidence, however, points to the theory expressed early in this report, and it is our belief that the original dermoid tumor contained an area of squamous cell epithelioma which was transplanted to the pelvic peritoneum when the cyst ruptured.

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MORTALITY FOLLOWING TRANSURETHRAL RESECTION

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During the past decade treatment of prostatic obstruction by transurethral methods has developed into one of the most valuable procedures in urologic practice. Generalized use of the transurethral resectoscope has resulted in lower prostatic mortality in numerous clinics. It has been of especial value in patients of advanced age where a prostatectomy is accompanied by an appreciable mortality and it has definitely become the operation of choice for median bars or glands of small size. The relatively shorter period of hospitalization following transurethral resection when compared to prostatectomy is often of considerable economic importance. It should be emphasized, however, that this procedure is not the operation of choice in all patients with prostatic hypertrophy. In many patients, especially those with prostates of large size, far better functional results are obtained if open prostatectomy is performed. Experience with transurethral resection in recent years has now enabled the urologist to recognize its many limitations. Proper selection of cases and a better application of this valuable operation has produced superior end results.

During the last ten years there has been a gradual decline in mortality following transurethral resection. This, in general, has been due to several factors. The first is the improvement in the instruments and operative technique; second, is increased experience and better selection of cases on the part of the urologists who performed these operations. Many improvements in the instruments have been made. Catheters with inflatable bags have been used to great advantage to control unusual hemorrhage in some cases. The use of the perineal urethrotomy in which a small opening is made in the perineal urethra for insertion of the instrument has practically eliminated the occurrence of post-operative strictures. This also allows the use of instruments of larger caliber, so that more tissue can be removed in a shorter time.

Besides the many technical improvements, one important additional factor has come to be recognized as essential for the reduction in mortality following transurethral resection during the past decade. This most important factor is the increased experience and aptitude of the operator. In the early part of the past decade transurethral resection was attempted by many operators who were not qualified cystoscopists or urologists. This unquestionably resulted in a morbidity and mortality which was appalling. It is now realized that adequate cystoscopic experience in many hundreds of cases is necessary before the operation can be carried out with facility and safety. The operation is highly technical and one must have a thorough understanding, not only of the instruments but of the normal and pathological anatomy of the bladder, vesical orifice and prostatic urethra. Any attempt to perform transurethral resections after only limited use of the cystoscope and a vague understanding of the anatomy is unquestionably fraught with many dangers and results in unnecessary deaths and many unsatisfactory functional results. If the beginner is to avoid the pitfalls of this highly technical procedure, he must spend a number of years training as an assistant to an experienced operator; otherwise, the "beginner's mortality" will be unusually high for lack of experience and proper instruction. As the number of resections done by the operator increases there is a decrease in mortality. Riba, in his study of mortality statistics, points out that of five urologists who have done more than 500 resections, the mortality rate is 1.9 per cent, or less. When this is compared to 25 other urologists whose experience consisted of only 100 to 500 resections, the mortality jumped to 4.1 per cent. It is in this latter group and in the group from 1 to 100 cases that

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improvement in mortality is to be hoped for. G. G. Smith has recently written, "Some of the operators who are now most skillful tell us that the mortality in their first one hundred cases was around 10 per cent. It seems to be a definite fact that before an operator learns to do resections satisfactorily, he must sacrifice a number of lives." Smith also states that, "Unless a resident is on a service which does hundreds of resections a year, he will not have acquired sufficient experience to enable him to make good when he does his first few resections in private practice." With previous thorough cystoscopic training and improvement in the technical features, it is now possible to reduce the "beginner's mortality" in transurethral operations.

It is the purpose of this paper to report the experience of the writer in his "first 100 patients" upon whom a transurethral resection was performed. These operations were carried out consecutively while the author was resident on the Urology Service at the University Hospital. During the author's tenure as resident, 22 additional consecutive cases were treated by either perineal or suprapubic prostatectomy without mortality. It should be stressed that these patients are poor risks and similar to those encountered on other charity services. There was no selection of patients before admission, nor were any patients refused admission because they were poor risks. During the period the above 100 patients were operated upon, there were five patients who were in such poor condition that prostatic surgery was not possible. A permanent suprapubic cystostomy was performed in three because the renal function was so diminished the expectancy of life was extremely short. In two others there was such extensive local invasion by the prostatic carcinoma that an operation was not feasible.

Sixty of the 100 patients were admitted in acute retention or with overflow incontinence. An additional thirty cases had varying amounts of residual urine. Five were complicated by the presence of bladder stones and in seven there were diverticula. Carcinoma of the prostate was present in eleven patients. The average age was 67. Many other complications too numerous to mention were encountered. Cardiovascular disease was frequent and thirty-one patients had hypertension with diastolic blood pressure of over 100.

The pre-operative care of such patients is of vital importance. Because of the relatively poor condition of this group of cases, there was an average of 8.2 days of pre-operative treatment. Every effort was made to improve the general condition of most patients before operation. Renal function was improved by inlying catheter drainage and abundant fluid intake. Proper therapy with alkalies was instituted when acidosis was present. Anemia, malnutrition, cardiovascular disease and other complicating conditions were appropriately treated.

In these 100 patients there was a total of 114 transurethral resections performed. In thirteen a second resection was necessary because of persistent residual urine. In one case it was necessary to perform three resections. The average amount of prostatic tissue removed is shown in Chart I.

CHART I

	AVERAGE GRAMS PER CASE
1st 25 cases	19.6
2nd 25 cases	17.6
3rd 25 cases	21.7
4th 25 cases	25.5

Following operation great effort is made to keep infection of the bladder and urinary tract to a minimum. A catheter is inserted immediately and connected to a closed sterile irrigating system so that the bladder can be flushed out at intervals with a mildly antiseptic solution. It is highly important that the bladder does not become distended and there must be no formation of clots to occlude the catheter. Distention of the bladder predisposes to pyelonephritis, septicemia and sometimes death. The catheter in most instances is removed at the end of the first to second post-operative day, providing there is no marked elevation of temperature and there is no bleeding. If a patient is able to void freely, the catheter is not re-inserted until the day before discharge when a test for residual urine is made. If any appreciable residual urine is found or if there is any difficulty in voiding, the catheter is immediately reinserted and left in a few additional days. If more than one to two ounces of residual urine is again found a second resection is performed.

Results: In this series of the author's "first 100 resections" there was one post-operative death, or a mortality of approximately 1 per cent. The following case was the only post-operative death encountered by the author in 100 resections and 22 prostatectomies during his resident year:

R. P. M., age 84, history number 151702, was referred

by Dr. Percy Harris of Scottsville, Virginia, September 1, 1939, with a history of increasing urinary obstruction over one year. Before admission symptoms had become so severe that he voided every few minutes. Examination showed a fairly well preserved, somewhat lethargic, senile white man. Prostate was moderately enlarged with no evidence of malignancy. Residual urine was 200 cc. Kidney function was excellent with 40 per cent phenolsulphonphthalein excretion in the first 30 minutes. His hemoglobin was 85 and r.b.c. 4,600,000. Blood urea was 60. Seven days after admission a transurethral resection was carried out without difficulty, although the anesthesia was not satisfactory. Thirty grams of tissue were removed. The patient was returned to the ward, at which time moderate bleeding occurred so that it was necessary to aspirate clots from the bladder and give a blood transfusion. Bleeding continued and another transfusion was necessary the following day. The second day after operation the hemorrhage had practically subsided, but the temperature had reached 102.4. His pulse became irregular and the blood pressure began to fall. He died in shock the third day after operation. A blood urea taken on the morning of death was 230. The white blood count was 12,400. There was tenderness over the kidneys and pyelonephritis had evidently developed following the operation. Sulfanilamide unfortunately was not tried and in retrospect may have prevented this unfortunate death.

Ninety of the ninety-eight* living patients have either returned to the Clinic or answered a follow-up questionnaire. On discharge from the hospital urinary incontinence of some degree was present in fifteen cases. In two of these this incontinence was inevitable due to invasion of the external sphincter muscle by carcinoma. In seven of the remaining cases the incontinence disappeared soon after the patients left the hospital. In three it was of such small degree that urine was only lost on undue coughing or straining. In the last three patients incontinence was considerable and at the time of the follow-ups there was as yet no improvement.

Incontinence following transurethral resection may be due to many factors of which three are most probable. The first is cutting too far down into the prostatic urethra with the wire loop so as to damage the external sphincter muscle. This injury usually results in permanent incontinence. The second cause of incontinence may be due to leverage of the relatively large resectoscope instrument through the rather rigid triangular ligament. To perform the operation satisfactorily the instrument must be moved from side to side and up and down so that there is considerable leverage upon the triangular ligament. This may produce an undue stretch or temporary paralysis of the sphincteric muscle. It is lastly noted that temporary incontinence sometimes occurs after the use of traction bags to control hemorrhage. It is possible that these bags pull against the triangular ligament (external sphincter). It is of interest that traction bags were used in nine of the fifteen cases in which incontinence was a complication. It was necessary to use such rubber bags only in a total of sixteen cases, a number 24 French straight catheter being used in all the other cases.

Six patients developed a temporary post-operative stricture but all responded promptly to dilatation. It is important to pass sounds in all patients having transurethral resections at least once during the first few months after operation. This annoying complication may be prevented by performing the resection through a perineal urethrotomy, especially in patients who have urethras of small calibre. It was thought advisable at the time to discharge sixteen patients from the hospital who were still carrying more than one ounce of residual urine. Eight have since returned and the residual was found to have disappeared. In three of the remaining eight a diverticulum was the cause of the residual. Three had known neurological bladders and the resection was performed with the knowledge that the result would not be entirely satisfactory and complete emptying of the bladder doubtful. The two remaining patients had only two ounces residual on discharge and have not returned to the Clinic for re-examination. Other than the above cases, the functional results have been entirely satisfatcory in approximately 90 per cent of the one hundred cases who underwent transurethral resection during this period.

SUMMARY

Mortality following transurethral operation in general has been discussed and it is pointed out that use of the resectoscope has resulted in a lowering of the mortality in numerous clinics. This operation has been of especial value in patients of advanced age as well as those with glands of small size or median bars. The shorter period of hospitalization has been of considerable economic importance. A low mortality is obtained only by operators who have

*One patient, A. S. Q., age 65, No. 150508, who had a small resection consisting of only 2 or 3 grams of tissue during the fulguration of a large bladder tumor died 6 weeks later. While receiving deep x-ray therapy there was gradual obstruction of his lower ureters from the tumor which resulted in the slow development of uremia and death.

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had considerable cystoscopic training. The operation is of highly technical nature, and, in general, the mortality of the operator's first hundred or so cases is frequently formidable. It has been stressed that patients must be selected for transurethral resection and that this operation in no way supplants perineal and suprapubic prostatectomies when they are indicated in instances of large adenomas, severe infection, etc. In this report the writer summarized his experience in his "first one hundred patients" upon whom a transurethral resection was performed. In this series the operative mortality was 1 per cent. A summary of these cases and the results obtained has been presented.

UNDULANT FEVER WITH SPECIAL REFERENCE TO THE USE OF BRUCELLA VACCINE IN DIAGNOSIS AND TREATMENT

Report of a Case

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It is with full knowledge of the limitations of a series of one case, but with the desire to show the usefulness of the intradermal test for undulant fever, that this paper is presented. Only by means of this intradermal test could diagnosis be established and therapy be instituted on a patient who had four attacks of a prostrating illness over a two-year period.

The patient, a 26-year old white male, married, employed as a hospital attendant, first became ill in July, 1939, at which time his complaints were chills, fever, nausea and vomiting, anorexia, and loss of weight. Initial physical findings are not known to us. He was observed for five days at his place of employment, then transferred to another hospital for further study. Physical examination on admission to this institution was negative except for evidence of recent weight loss and scattered rales in both lung fields. Laboratory findings were: WBC 13,500, negative urinalysis. Blood cultures were negative on several occasions, *as were all agglutinations*. An x-ray of the chest showed nothing of significance, although fluoroscopy showed some elevation and fixation of the right diaphragm. For this reason a liver infection was suspected, but this diagnosis was never proven. The patient was treated symptomatically, given frequent intravenous injections of glucose. He ran a slowly subsiding febrile course for three weeks; was discharged at the end of five weeks.

Following a slow convalescence, the patient was symptom-free until March, 1940, at which time the same symptom complex reappeared. He was hospitalized at his place of employment and ran essentially the same course as with his initial illness. Physical examinations and laboratory studies were made at this time but the results are not known to us. No definite diagnosis was made.

The next episode of illness occurred in January, 1941, again with the same clinical picture. On this occasion the patient was hospitalized in a third institution where physical examination again revealed nothing of significance. Laboratory findings were: WBC 12,500, with 70 per cent PMN; urinalysis was negative. Blood cultures and stool cultures on several occasions were negative, *as were all agglutinations*. X-ray of the chest again was negative and fluoroscopic examination revealed nothing of significance. Proctoscopic examination was done and was negative. A liver infection of some sort was again considered, the patient was treated symptomatically, ran a febrile course for two weeks and was discharged after seventeen days.

Again a slow convalescence ensued. The patient obtained employment as an attendant at the Lynchburg State Colony in April, 1941, and enjoyed fairly good health until September, 1941, at which time he complained of malaise, anorexia, and slight weight loss, which persisted for about a week prior to his admission to the Colony Medical Center. On admission the patient complained of general malaise, arthralgia and myalgia, frontal headache, and chilliness but not chills. Admission temperature was 100.2°F., pulse was 90, respirations 22. Physical examination revealed an individual who had obviously lost weight, but who was not in acute distress. The pharynx was injected. A few scattered crepitant rales were heard throughout the lung fields. There was some tenderness over the splenic area and the

spleen was thought to be palpable. There was no evidence of any joint pathology. Admission blood count showed WBC 11,770 with 72 per cent PMN. RBC was 4.0, HBG 70 per cent (Sahli method.) Urinalysis was essentially negative.

Forty-eight hours after admission, the patient had a severe chill with a temperature elevation to 104°F. and an exacerbation of all symptoms. These chills recurred approximately every thirty-six hours with temperature reaching 104°-105°F. At no time were blood smears suggestive of malaria. Three blood cultures and three blood agglutinations, taken during periods of chills, were all negative. Blood serology was negative as were several stool cultures. An x-ray was taken of the chest and showed nothing of significance, although later on there was clinical evidence of right diaphragmatic lag and some fluid at the right base, anteriorly. Several blood smears were sent to Dr. Walter J. Crocker, hematologist of the Philadelphia General Hospital, who reported a Schilling Index of 34, a multiple index of 544, stating the patient was sick enough to die, if the infection were pyogenic in nature. Dr. Crocker found no evidence of malaria, suggested typhoid fever as a possibility; concluded his report with the remark that he had seen several similar blood pictures in the past in patients who had run a similar course and had never been diagnosed.

Despite the fact that agglutinations for B. Melitensis were negative on three separate occasions, there were several clinical observations made which pointed strongly to the diagnosis of undulant fever. These were: (1) a rather typical undulating temperature curve, (2) persistent obstipation, (3) profuse sweats with a characteristic lactic acid odor, (4) intermittent chills, (5) arthralgia and myalgia, (6) evidence of pulmonary infection without evidence of a frank pneumonia.

With these observations pointing to the diagnosis of undulant fever, some Brucella vaccine was obtained and an intradermal test was made, using 0.02 cc of the vaccine. Controls were run on two normal individuals. At the end of forty-eight hours there appeared at the site of injection on the patient an area of erythema and induration, with exacerbation of all symptoms. The controls showed no local or systemic reaction. Five days later, the test was repeated in similar fashion with identical results.

With the intradermal test positive, a diagnosis of undulant fever was established and the vaccine then employed as a therapeutic agent. An initial dose of 0.1 cc was administered intramuscularly and repeated every three days, increasing the dose 0.1 cc each time, until a maximum of 0.7 cc had been administered. Following the first two injections, the patient experienced a marked exacerbation of all symptoms, with a severe chill and temperature rising to 104°F. The last five injections caused no significant reaction, other than some local soreness.

Following the institution of vaccine therapy, the patient noticed marked relief of all symptoms, the temperature gradually subsided and remained normal after the third injection. The patient was allowed out of bed after the fourth injection; was ambulatory two days prior to the last injection. Vaccine therapy was started sixteen days after admission to the hospital. Total hospitalization covered four weeks. Vaccine therapy was not begun during the acute phase of the disease as it is not considered advisable to use this form of therapy while the patient displays hyperpyrexia and other acute manifestations of the disease. The only other form of therapy employed was intravenous glucose, one blood transfusion of 500 cc, and 2 cc of liver extract intramuscularly every other day for ten days.

At the time this paper is written, the patient has returned to work, states that he feels better than he has felt at any time during the past two years. Objective improvement is marked. Blood count on discharge showed WBC 10,300, with 70 per cent PMN. RBC was 4.44 with HBG 88 per cent. The patient's usual weight of 124 pounds had fallen to 105 during his illness. On discharge he weighed 118 pounds.

SUMMARY

1. A case of undulant fever is reported, previously undiagnosed, with repeated negative blood agglutinations for B. Melitensis.

2. A prolonged febrile course, accompanied by profuse sweats with a lactic acid odor, persistent obstipation, intermittent chills, arthralgia and myalgia, and evidence of pneumonitis is strongly suggestive of undulant fever.

3. Diagnosis of undulant fever may be made by means of an intradermal skin test, using 0.02 cc of Brucella vaccine. A positive reaction is characterized by an area of erythema and induration, with exacerbation of all symptoms, occurring within forty-eight hours.

4. Brucella vaccine may be employed as a thera-

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peutic agent in undulant fever, using 0.1 cc intramuscularly as the initial dose and increasing by 0.1 cc every third day until a maximum of 0.7 cc has been given.

METRAZOL IN BARBITURATE POISONING—A CASE REPORT*

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Since the discovery of barbituric acid and its derivatives, these products have come to be used extensively as sedatives and hypnotics. The popularity of these drugs as well as the laxity of laws governing their use in many states has given rise to numerous cases of poisoning and attempted suicide by over-dosage of the various barbiturates.

In ordinary doses, these drugs induce natural sleep, frequently without subsequent depression. In larger doses, the unconsciousness is deepened and lengthened without other organs than the central nervous system being involved. In large doses, symptoms of mental confusion, nausea, muscular weakness and incoordination followed by complete narcosis occur. The heart and respiration are depressed. Cyanosis, respiratory failure, coma and death terminate the picture.

Various preparations have been advocated, experimentally and clinically, as antidotes for barbiturate over-dosage. These analeptics may be divided into three groups:

1. Those agents which act primarily on the peripheral circulation and thus indirectly aid a depressed respiratory center, such as ephedrine and epinephrine.

2. Those agents which act directly on the medulla, such as metrazol, picrotoxin, caffeine and carbon dioxide.

3. Those agents acting directly on the "sleep center", such as picrotoxin and metrazol.

Pharmacologic studies seem to support the view that the depression resulting from barbiturate overdosage involves chiefly the hypothalmus and the basal ganglion regions. Therefore, metrazol and picrotoxin would theoretically be the analeptics of choice.

In choosing between these two drugs, it would seem that metrazol possesses certain advantages over picrotoxin. Chemically, this drug is pentamethylenetetrazol. It is a stimulant almost as powerful as picrotoxin, but not quite as prolonged in its action clinically. There is no latent period and the maximum effect is exerted almost immediately after injection. This practically eliminates the danger of convulsions from over-dosage which is present in the use of picrotoxin because of its delayed "peak" action.

We have recently had occasion to see this theoretical antagonism of metrazol to barbiturate overdosage demonstrated in a most satisfactory manner.

CASE REPORT

Mrs. Z., a white female, married, age 40, was seen at her home at 10:00 A. M., August 13, 1941, by her family physician (F.B.T.). When seen she was in a totally unconscious condition. Her past history was non-contributory. Her husband stated that she had awakened him about 11:00 P. M. the night before, fumbling for a light switch. Thinking her confused in the dark, he had put her to bed and had not become alarmed until the following morning when she could not be aroused.

The patient was rushed to the hospital where examination disclosed a well-developed white female in a totally unconscious condition. The breathing was stertorous and there appeared to be much pulmonary congestion. The pupils were normal in size and did not react to light. All reflexes were absent. The rectal sphincter was relaxed. The Hb. was 95, RBC 5,000,000, WBC 22,000 with 90 per cent polynuclear neutrophiles. B. P. was 90/60. During the day the temperature rose to 105°F., and a spinal puncture was done because of the possibility of a brain lesion. This showed normal dynamics, globulin negative, sugar normal, cell count 3 lymphocytes.

Treatment consisted in the application of body heat, aspiration of mucus, elevation of the foot of the bed, and atropine sulphate and glucose intravenously. The response to this regime was not satisfactory, the patient remaining in a totally unconscious condition with respiration and pulse rapidly becom-

*Read before the Patrick-Henry Medical Society, October 3, 1941.

ing worse. Although it could not be proved, it was felt that this was a case of barbiturate poisoning. The patient was seen in consultation about 9:00 P. M., and the use of metrazol was suggested. She was given 5 cc. intravenously and almost immediately the patient moved her head and attempted to turn in bed which was the first movement of any kind since her admission. The metrazol was repeated in doses of 2 cc. every two hours with rapid improvement in the pulse and respiration. Convalescense was uneventful. After recovery the patient admitted taking twenty-five 0.1 gm. delvinal sodium capsules the night before admission.

Summary and conclusions:

1. Recovery is reported in a case receiving a large dose (2.5 gm.) of delvinal sodium.

2. The theoretical use of metrazol as an antidote to barbiturate poisoning proved effective in this case after the failure of other methods.

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STUDIES OF IRRADIATION EFFECTS ON CANCER CELLS
I. Preliminary Report:*
The Production of Liver Cancer in White Rats†

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For many years the study of x-ray and radium effects on tumor cells of experimental animals has been attempted in many laboratories. However, readily reproduceable tumors are chiefly sarcomas and their bizarre and atypical histologic pictures have interfered with accurate interpretation of results of irradiation. Many types of sarcoma can be produced, but until recently no readily reproduceable epithelial malignant tumor of a large internal organ has been developed in small animals.

For the study of irradiation effects on cancer cells, it is necessary to have such an epithelial cancer reproduceable in large numbers of small laboratory animals, such as rats, so that irradiation effects may be produced in large groups of animals with proper controls.

Liver cancer of high incidence in white rats was first experimentally produced by Sasaki and Yoshida,[1] in 1935, who fed white rats ortho-amino-azotoluene with a polished rice basal diet. In 1937 this work was confirmed by Kinosito[2] except that the tumor was produced by feeding dimethyl-amino-azobenzene (butter-yellow). Since that time similar results have been obtained by other Japanese workers,[3, 4] and, in this country, by Sugiura and Rhoads at Memorial Hospital, New York.[5]

In order to study the effect of 220 kilovolt x-rays on living cancer cells in comparison with normal cells of a comparable tissue, production of this liver cancer was attempted in our laboratories. The method of induction of this tumor used by Sugiura and Rhoads was followed very closely in order to obtain an incidence of tumor as high as possible.

EXPERIMENTAL

Because Rockland Farm white rats from Long Island were used by Sugiura and Rhoads, fifty of

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these animals were obtained for this experiment. A second group of fifty animals from the Medical College of Virginia Physiology Department were also used. This latter strain is a mixture of white and brown rats, hooded type, based on an original strain from Wistar Institute and wild rats. The cages and watering devices used are described by Main.[6] A basal diet of Texas brown rice was used throughout the experiment. The rice was coarsely ground and to it was added the dimethyl-amino-azobenzene in 3 per cent olive oil solution to the amount of 20 cc. per kilogram of rice. Approximately 7 grams of this rice-butter-yellow-olive oil diet was fed to each rat each day and this was supplemented by a small cube of fresh carrot approximately 2-4 grams in weight per rat per day. Water was permitted *ad lib.*

The hundred animals were divided into four groups. Group I, composed of ten control animals, received no x-ray, but remained on the experimental diet and were sacrificed early in order to determine the extent and type of cirrhosis of the liver. Group II received no x-ray and was composed of fifteen control animals which were permitted to survive on the diet for from four to six months and sacrificed for study of the liver cancer incidence and histological structure without x-ray changes. Group III was composed of fifty animals which received x-ray after three months of the experimental diet and before tumors of the liver could be palpated by abdominal examination of the animals. Group IV constituted twenty-five animals which were x-rayed after tumor development was assumed to be present by examination of animals sacrificed earlier.

Two-hundred kilovolt x-ray was filtered by ¼ mm. Cu with a distance of 50 cm. The animals were protected by lead plates over the entire body except for an area approximately 2 cm. square on the right side immediately over the largest portion of underlying liver. The rats were anesthetized lightly with nembutal by intraperitoneal injection to prevent motion during irradiation. Two animals were lost by hypersensitivity to nembutal. The rats which received x-ray before tumor could be palpated in the abdomen (Group III) received 2,000 roentgens in one dose at the rate of approximately 100 roentgens per minute. The other irradiated group, Group IV, were treated after tumor development was believed to have occurred by indications in sacrificed animals and by palpation of the abdomen, and received 1,000 roentgens at each of two doses separated by an interval of one week.*

RESULTS

Fifteen animals were lost by pneumonia, middle ear disease, toxicity of the butter-yellow diet, and nembutal anesthetization, leaving a group of eighty-five animals from the original 100. The incidence of cancer in the livers of these animals is shown in Table I which is based upon the histologic examination of the livers of eighty-five rats. It will be noted that in calculation of percentage incidence the control group I has been excluded due to the fact that these animals were all killed early in the experiment and were not exposed to the effects of butter-yellow more than from a few days to approximately one month and, therefore, should not be included in the final results.

Disregarding the source of strain, there are found 80 per cent incidence of carcinoma of the liver in the eighty-five surviving rats. When the two strains are separately considered, of seventy-eight animals, forty-one surviving were of the Rockland Farm Long Island strain and thirty-seven of the Medical College of Virginia strain. Thirty-five of the former and twenty-eight of the latter showed carcinoma of the liver. This indicates that the Rockland Farm strain was more susceptible to the carcinogenic effects of the butter-yellow, since 85 per cent incidence occurred in this strain as compared to 75 per cent in the Medical College strain.

It will be noted by examination of the table that there is no significant difference in tumor incidence between x-rayed groups and non-irradiated controls. It is possible that this lack of x-ray effect on incidence is due to the late exposure to x-ray during the experimental period, thereby permitting the carcinomas of the rat livers to progress considerably before irradiation. Furthermore, in this preliminary experiment the animals were not permitted to survive long enough after x-ray treatment to determine whether or not it would have any effect upon the mortality from cancer.

The cytologic changes in the liver cancer as compared to the changes in the surrounding more or less normal liver cells are being studied and will be

*The enthusiastic cooperation of the members of the X-Ray Department staff is gratefully acknowledged. All irradiation of these rats was carried out by them under the direct supervision of Dr. F. B. Mandeville, Professor of Radiology.

TABLE I

Incidence of "Butter-yellow" cancer of liver in rats.

GROUP	NO. OF RATS	SURVIVED EXPERIMENT	LOST BY INFECTION, ETC.	INCIDENCE OF LIVER TUMORS NUMBER	PER CENT
I. (Control)	10	7	3	0	—
II. (No x-ray)	15	12	3	10	83%
III. (x-ray)					
a—less than 30 days after	50	37 } 45	5	31 } 36	80%
b—more than 30 days after		8 }		5 }	
IV. (x-ray)					
a—more than 30 days after	25	7 } 21	4	6 } 17	80%
b—more than 30 days after		14 }		11 }	
TOTALS	100	85	15	63	80%*
Rockland Farm strain	41	—	—	35	85%
Med. Col. Va. strain	37	—	—	28	75%

*The percentage of incidence of tumors is based on the total of 78 rats surviving the experiment and excluding the 10 control animals of Group 1. This group was not permitted to survive long enough to develop tumors of the liver.

The final per cent under "Totals" above represents the average of all animals.

the subject of a later report. Further studies also are being undertaken to determine the effect of x-ray irradiation upon the incidence of this type of liver cancer by repeated fractional doses over the liver for a longer period of time during the experimental period and starting at an earlier period in the experiment.

SUMMARY

The work of previous investigators on the carcinogenic activity of dimethyl-amino-azobenzene in the production of cancers of the liver in white rats has been confirmed.

An incidence of 80 per cent cancers of the liver was obtained as an average in two strains which showed 85 per cent incidence for the Rockland Farm strain and 75 per cent for the Medical College of Virginia strain.

No significant reduction of incidence or mortality from cancer of the liver was produced by the administration of 2,000 roentgens of 200 kilovolt x-ray.

Further studies are being conducted on the effects of x-ray on this parenchymal liver cancer.

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AN EVALUATION OF THE OPERATION OF THE PREMARITAL LEGISLATION IN VIRGINIA

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In the 1938 session of the Virginia General Assembly a bill was introduced requiring a general medical examination for persons contemplating matrimony, including an examination for syphilis, gonorrhea, and other venereal diseases. The State Medical Society opposed this legislation because it realized the improbability of proper enforcement. In this opinion the State Department of Health concurred. The bill was not passed.

In the years between the 1938 and 1940 sessions of the General Assembly the Syphilis Committee of the State Medical Society painstakingly investigated the general subject of premarital legislation and reviewed the experience of states having such laws. One of the members of the committee drafted a bill which was agreeable to the various civic bodies and other lay organizations interested in this subject. This proposed legislation also had the unanimous approval of the State Medical Society's House of Delegates and was endorsed by the State Department of Health. The bill was enacted by the General Assembly of 1940 and became effective on August first.

Since the enactment of this legislative act the State Department of Health has had a full year's experience with the administration of the law; also ample opportunity to evaluate its worth as a syphilis control measure through statistical analysis of the serological examinations made on marriage applicants, and through the follow-up of those individuals infected with syphilis who under the terms of the act have married. Based on this experience this report has been prepared.

Many authorities have stated that Virginia's Premarital Examination Law was unique. This statement can be attributed to the fact that the act permits, without penalty to the individual and without violation of medical confidences, persons infected with syphilis to marry. Many of the marriage examination laws that have been enacted have prohibited persons with syphilis from marrying, and in turn many of these legislative acts have been objected to on this point by public health authorities.

This legislation not only placed definite obligations on the State Department of Health and the physicians of the State but also upon individuals seeking license to marry, and on the clerks of the courts of the Commonwealth. Upon individuals seeking license to marry, the act stipulates two requirements. First, that within 30 days prior to the marriage they must have a serological test performed by a licensed physician. Second, the law requires that if the applicant be infected with syphilis and marries, he must agree to take treatment as long as the State Health Commissioner deems treatment necessary. A violation of this section is a misdemeanor. Thus, the obligation on the parties applying for a marriage license is simple.

The family physician, the clinic physician, or health officer making the examination on these individuals is required to perform certain specific duties under this legislation. The first of these is to send a specimen of the applicant's blood to an approved laboratory for a standard serological test. If this specimen is reported as negative, the physician gives the applicant a signed certificate to be delivered to the clerk of the court in Virginia. In addition, the physician must execute a certificate stating that he has complied with this requirement and attach to the certificate the laboratory report, or a copy of such report. These are sent to the State Department of Health.

However, if the applicant's blood specimen is reported as positive, the physician is required to take a thorough medical history, perform a physical examination and take another specimen of blood for serological examination to determine whether the applicant has syphilis. If the physician or applicant desires, a third test or more may be made.

After these procedures, if a diagnosis of syphilis is made, the physician must inform the applicant of his status. Then, if the applicant still wishes to

marry, it becomes the duty of the physician to inform both parties to the marriage of this fact and of the possibility of transmitting the disease to the marital partner and to their children.

If both parties having been so informed still wish to marry, the physician is required to certify that these duties have been accomplished. The statement signed by the physician and the laboratory reports are then sent to the State Department of Health. The physician then gives a certificate to the applicants to take to the clerk of the court, which certificate does not disclose the medical findings, but merely informs the clerk of the court that the applicants have complied with the law. In fact, the same certificates are being used for applicants who are infected with syphilis and those who are not.

The law also requires that if a physician is treating a person infected with syphilis who married under the terms of the law, or the spouse of such a person, that he, the physician, shall give such information with reference to treatment or any failure or refusal to continue treatment, as the State Health Commissioner may deem necessary in carrying out his duties under the law.

On the clerk of the court, the premarital law imposes a penalty for issuing a marriage license unless there has been filed with him a statement from the physician that the party has complied with the requirements of the law. Other statutes of the Code of Virginia require that the clerks of the courts send a copy of the license and the marriage certificate, signed by the minister or judge, to the Bureau of Vital Statistics of the State Department of Health.

Despite the seeming complexities of the legal requirements of this statute the Department can state that the cooperation of the physicians and the court officials has been splendid. In no instance has a physician or court official failed to cooperate. The mistakes that have occurred have been of a minor nature, and were chiefly errors in the execution of the forms, omission of identification data, acceptance of reports from non-approved laboratories, etc. Such occurrences were to be expected due to the newness of the procedure. As the year progressed the administrative procedures in connection with the law became smoother and such errors have been less frequent.

Of the parties concerned, perhaps the greatest obligations are placed on the State Department of Health. It is the duty of the Department to approve laboratories for the performance of the serological tests and to file, and keep confidential, the certificates and the laboratory reports received from the physicians. The most difficult duty imposed is the investigation of all persons infected with syphilis who marry, to ascertain if they are under treatment. With a yearly average of 30,000 marriages in the State, and with 1,894 cases of syphilis already reported from the examination of this group, the magnitude of this task can easily be appreciated.

Through this legislation, serological examinations have been made on 52,853 individuals. Of this number, 38,434 were residents of the State and 14,419 were non-residents. All of the individuals who married under the terms of the statute were informed concerning their status as to infection. For those individuals whose first serological examination was positive the test procedure has been repeated, a physical examination made and the person's medical history obtained, before a diagnosis of syphilis was made. In cases where a diagnosis of syphilis was established, both parties to the proposed union were informed of the fact and were instructed concerning the importance of treatment for their infection, not only to themselves but to their offspring. This information is of great importance for females in child-bearing age groups, for without such information many of those who were infected would bear congenitally maimed or crippled children.

Table I shows the results of the premarital examinations divided by color, sex, and residence of individuals. From an analysis of the table of premarital examinations by place of residency, it is observed that of the 14,419 non-residents examined, 176 or 1.2 per cent were syphilitic. Of the 38,434 residents examined, 4.5 per cent were found to be infected. The difference in the per cent between the residents and non-residents of Virginia in the total column can be attributed to the large proportion of Negroes, who have a much higher rate than the white, in the resident group. Examination of the rates for the white and Negro separately reveal that the rates for the resident and non-resident groups show no marked difference when the numbers are large enough to be significant.

From Table II, giving the distribution of individuals examined by age, color, and sex, it should be noted that 44,113, or 83 per cent, of the total examinations were made on individuals 30 years of

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TABLE I
PREMARITAL EXAMINATIONS
DISTRIBUTION OF INDIVIDUALS BY RESIDENCE—COLOR—SEX
August 1, 1940, through June 30, 1941

	WHITE						COLORED						TOTAL		
	MALE			FEMALE			MALE			FEMALE					
	Neg.	Inf.*	% Inf.	Neg.	Inf.	% Inf.	Neg.	Inf.	% Inf.	Neg.	Inf.	% Inf.	Neg.	Inf.	% Inf.
Residents of State of Virginia	14,174	124	0.9	14,442	137	0.9	3,986	729	15.5	4,114	728	15.0	36,716	1,718	4.5
Out-of-State	6,778	54	0.8	6,910	58	0.8	295	25	7.8	260	39	13.0	14,243	176	1.2
Total	20,952	178	0.8	21,352	195	0.9	4,281	754	15.0	4,374	767	14.9	50,959	1,894	3.6

*Infected. Diagnosis of syphilis made by physicians after positive laboratory report.

age or under—the group to whom this knowledge is most important. Moreover, since it is generally accepted that 50 per cent of all new cases of syphilis occur in the age group 21 to 30, the examination of these individuals is particularly valuable in efforts to control the disease. Without this legislation, many of the 1,357 individuals found infected in this age group would never have been aware of their infection and, therefore, would not be under treatment. It is of interest, too, to note that the infection rate among females of child-bearing age is approximately the same as the rate determined for that group in previous prevalence studies made in Virginia.

In the final analysis, 261 or .9 per cent of the white residents examined were found to be infected, and 1,457 or 15 per cent of the colored residents were diagnosed as having syphilis—a total of 1,718 infected or 4.5 per cent of the 38,434 residents examined during the first eleven months' experience. Of the non-resident group, 176 or 1.2 per cent gave evidence of infection and their respective health departments were notified in accordance with the procedure in intra-state case notification.

Many persons have expressed the opinion that this legislation would reduce the number of marriages in the State and tend to increase the number of illegitimate births. From information obtained from annual reports of the Department's Bureau of Vital Statistics, we find that since 1930 marriages

TABLE II
PREMARITAL EXAMINATIONS
DISTRIBUTION OF INDIVIDUALS BY AGE—COLOR—SEX
August 1, 1940, through June 30, 1941

	WHITE						COLORED						TOTAL		
	MALE			FEMALE			MALE			FEMALE					
	Neg.	Inf.*	% Inf.	Neg.	Inf.	% Inf.	Neg.	Inf.	% Inf.	Neg.	Inf.	% Inf.	Neg.	Inf.	% Inf.
Under 21	3,184	13	0.4	8,188	37	0.4	1,041	96	8.4	2,217	252	10.2	14,630	398	2.6
21–30	13,519	92	0.7	10,658	110	1.0	2,345	403	14.7	1,604	354	18.1	28,126	959	3.3
31–40	2,789	37	1.3	1,781	38	2.1	493	153	23.7	342	101	22.8	5,405	329	5.7
41–50	847	22	2.5	494	5	1.0	199	60	23.2	125	40	24.2	1,665	127	7.1
50+	613	14	2.2	231	5	2.1	203	42	17.1	86	20	18.9	1,133	81	6.7
Total	20,952	178	0.8	21,352	195	0.9	4,281	754	15.0	4,374	767	14.9	50,959	1,894	3.6

*Infected. Diagnosis of syphilis made by physician after positive laboratory report.

in Virginia tended to follow a definite trend until the enactment of premarital legislative acts by neighboring states, at which time there was a sharp rise in marriages. The marriage statistics for the year 1930 listed white marriages at 17,417; from that year through 1936 marriages increased roughly in proportion to the State's increase in population. In 1936 there were 22,417 white marriages. However, in 1937 marriages jumped to 24,834, an increase of 2,417 over the previous year. In 1938, as more of the neighboring states passed laws requiring premarital examinations, the total rose to 26,225, but the real influence of outside restrictions on hasty marriages was felt in 1939, when adoption of a 48-hour waiting law in Maryland and a 72-hour waiting period in the District of Columbia made Virginia the rush-marriage center for the Eastern States. That year, the number of white marriages, chiefly due to the influx of persons from out-of-state, rose to 42,002. The 1940 total of 43,438 may be considered as being due in part to the rush to beat the deadline of August 1, the date the legislative act became effective.

Meanwhile, the number of Negro marriages, which increased slightly and gradually from 1930 through 1938, jumped from 7,952 that year to 10,716 in 1939. In that classification, the normal through the ten-year period has averaged less than 8,000.

Had the number of marriages in the State continued gradually to increase we could expect approximately 30,000 marriages a year in 1940, instead of the 52,680 that were registered. As yet the marriage statistics for 1941 have not been cleared and tabulated by the Bureau of Vital Statistics. However, upon estimates of the number of marriages based on the premarital records received in the Division of Venereal Disease Control for an eleven-month period, August 1, 1940, through June 30, 1941, there will probably be 29,000 marriages, in a twelve-month period, which estimate still shows an increase over the expected number of marriages if the normal trend for the State on a population basis had continued without being subject to the influence of marriage examination laws by neighboring states.

The number of illegitimate births evidence nothing of statistical significance. In 1930 there were 65.4 illegitimate births for each one thousand live births registered. In 1939 there were 73.6 illegitimate births per one thousand live births. In 1940 the rate was 75.4 per one thousand live births. The Bureau of Vital Statistics reports that there has been a slight increase annually in each year of the ten-year period, 1930-1940. Further, the 1940 increase can hardly be attributed to the influence of the marriage law as the act did not become effective until August 1, 1940. The 1941 figures have not been broken down by legitimacy of birth at the present time, but it is doubted if this legislative act will materially effect them. Further, the rapid population increase in certain areas of the State, due to mobilization and industrial expansion because of the defense program, may alter strict interpretation of the 1941 figures.

Through the requirement of sub-section (d) of the act, which section imposes upon the State Health Commissioner the obligation of approving laboratories for the performance of serological tests, much good has been accomplished in that standards of serological test performance by the participating laboratories have been elevated through the serological evaluation studies. In defining standards for laboratory approval it was decided to follow the criteria recommended by the Hot Springs Conference of serological test performance evaluation as outlined in Supplement No. 9, The Serodiagnosis of Syphilis. In March 1940 an invitation was extended to all laboratories known by previous questionnaires to be performing serological tests—30 laboratories indicated their willingness to be evaluated under the terms of the invitation. Of the laboratories participating, 13 were granted full approval and 19 temporary approval. In the second evaluation study conducted in February 1941, 42 participated and 27 were granted approval.

In August 1940 at the meeting of the State Medical Society the Syphilis Committee recommended that the Department's laboratory render field consultation service in serology to private and semi-private laboratories. In compliance with this recommendation the Department made available the service of the chief serologist for consultation. As mentioned above, it is believed that much has been accomplished through these studies and through the field consultation service to elevate standards of serological test performance.

In this review of the first year's experience with the marriage act, the benefits resulting from this legislation can be summarized briefly. For the laity,

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the act has been of great educational value, especially for those individuals who married having been informed as to their status as to infection. For those who were infected (particularly females in the child-bearing age group) knowledge of their infection and of the importance of regular treatment has been of untold benefit. For the Department of Health, the act has served as an additional disease control measure in that 52,853 persons have been given a serological test for syphilis. For the physicians of the State, renewed interest in and improvement in serological test performance by laboratories has been of assistance in that more confidence can be placed in serological test reports as an aid in the confirmation of their clinical diagnosis.

State Office Bldg., Richmond, Va.

CASE REPORT OF MATERNAL DEATH

MATERNAL HEALTH COMMITTEE
MEDICAL SOCIETY OF VIRGINIA

The patient, a 39-year-old colored multipara with five previous children, attended a prenatal clinic when five months pregnant, at which time the findings revealed an essentially normal pregnancy of five months' duration. Because of the lack of transportation she failed to return to the clinic for subsequent visits, although she was seen at home several times during the remainder of the pregnancy by a nurse. At 7:00 P. M. on April 8th, she was delivered of twins spontaneously at home by a midwife. At 8:00 P. M. the placenta had not delivered so a physician was called. There had been no antepartum or intrapartum bleeding, but there was some postpartum bleeding. At the time of the visit of the physician there was only slight vaginal bleeding, the pulse was rapid, and the blood pressure was 90/??. Attempts to express the placenta were unsuccessful. Glucose (500 cc.) was given intravenously. The doctor remained until 10:00 P. M. and then left with instructions to call him again if she did not do well. The doctor was called back at 11:00 P. M. because the patient became restless. On his arrival at this visit the patient was said to be comatose and pulseless, with very little external bleeding. She was given glucose (1000 cc.), caffeine and morphine and referred to a hospital. Profuse bleeding occurred en route to the hospital, where she was admitted at 3:00 A. M., eight hours after delivery. She was in severe shock, blood pressure 60/??, and both placentas were still retained. She died twenty minutes after admission before any adequate therapy could be instituted. Postmortem examination revealed a retained placenta of twin pregnancy (not placenta accreta) and evidences of acute blood loss.

COMMENT

This is an obstetrical death and it has been classified as a preventable death. The first failure is the absence of adequate antenatal care and diagnosis. The presence of twins, had the diagnosis been made, would have indicated a hospital delivery, because of the frequency of postpartum hemorrhage and of abnormalities in the third stage of labor in twin pregnancies.

Perhaps the actual treatment of this case by the physician should not be criticized, for this method of therapy might result in a favorable outcome in in some instances, but unfortunately it did not result favorably in the case under consideration. There is some divergence of opinion regarding the proper method of management of retained placenta, some favoring early manual removal, while others follow the conservative course pursued in the present case. Certainly the outcome may have been different had the patient (along with a group of possible blood donors) been referred to a hospital at 8:00 P. M. Early manual removal of the placenta and blood transfusions would have offered this individual a better chance of survival. Because of the absence of antenatal care, and because of the failure to remove the placenta manually or to refer the patient to a hospital for manual removal and blood transfusions at the time of the first visit, it is felt that the death should be classified as preventable.

The Council
Medical Society of Virginia

The Council of the Medical Society of Virginia held a luncheon meeting in the Richmond Academy of Medicine Building on January 8, 1942, at 1:00 P. M., with the president, Dr. Roshier W. Miller presiding. Others present were: Dr. J. M. Emmett, president-elect; Drs. Julian L. Rawls, J. Morrison Hutcheson, W. C. Akers, W. L. Powell, Alex. F. Robertson, Jr., Andrew D. Hart, and C. B. Bowyer, councilors; Dr. Wyndham B. Blanton, editor; Dr. Dean Cole, chairman of the Legislative Committee; Mr. R. C. Duval, attorney, and the secretary.

Following lunch, Dr. Miller explained that he had planned through questionnaires to secure information from members to determine what changes might be made for the good of the organization and also to visit some of the component societies, but, since the rulings with regard to automobiles as a defense measure and the absence of a large number of doctors, he had decided it would be best to let Society matters "float along" and handle them as they arise.

It was moved to dispense with the reading of the minutes of the last Council meeting (pages 706-7, December, 1941, MONTHLY) and they were approved as printed.

That the Local Committee in charge of the 1942 meeting might get started with their plans, the councilors had been written to and dates set as October 5, 6, and 7. Upon request of the president, these were approved.

Dr. Miller stated that Dr. Ernest G. Scott, one of the vice-presidents, was unable to attend this meeting because of the death of his brother, and, if agreeable to the members, he would like a telegram of sympathy sent him. This was approved.

A request was presented by the secretary for a special appropriation for a new addressograph for the office. Dr. Powell said the Budget Committee had approved this last Fall, in case it was found necessary, and he moved that the appropriation be made. This was seconded and carried.

Dr. Miller then re-appointed Drs. Hutcheson and Powell as the Budget Committee for this year.

The secretary said that the question had come up as to another joint meeting with the West Virginia State Medical Association. Dr. Emmett said he would like to have another of these meetings when conditions are favorable and he was requested to look into the advisability of this question and report at the Fall meeting of the Council.

Dr. Cole, chairman, was then asked to tell the Council something of the work which had been done by the Legislative Committee. He enumerated the following which had received their special attention.

1. A request had come from Dr. J. R. Parker for assistance in the prosecution of a woman who had been found guilty of producing criminal abortion. Motion was made to advise Dr. Parker that the Society has no authority to prosecute such cases but that he might see if help could be secured from the State Board of Medical Examiners. Seconded and carried.

2. The committee had considered a resolution referred from the House of Delegates with regard to drafting suitable legislation governing the medical care of jail prisoners, and the payment of adequate fees to physicians for this work. Motion was made by Dr. Robertson that the Legislative Committee be empowered to confer with the proper committee of the State Legislature, to suggest adequate fees for physicians treating the inmates of jails, as a part of the proposed changes in the legislation for the administration of jails. This was seconded and carried.

3. Dr. Henry Lee of Roanoke had discussed with Dr. Cole the right of an individual to select his own hospital and physician in cases coming under the Workmen's Compensation law, instead of this being done by insurance companies. Dr. Cole said the committee had made a study of this and felt they should not take action but that it should be referred to the Medical Economics Committee. It was moved and carried that this be done.

4. The question of changes in the State laws relating to the office of Coroner, referred by the House of Delegates, had been considered by the Committee, and Dr. Cole said they recommended that this be referred, by a resolution to be adopted by the General Assembly of 1942, to the Legislative Advisory Council of Virginia for study, this Council to consider the whole matter in conjunction with a committee of the Society and the State Board of Health, and report to the General Assembly at its 1944 session with recommendations for any proposed changes in the statutes. After discussion, the Committee's recommendation was accepted.

5. The committee had carefully considered the sections of the Medical Practice Act and felt that it might stay as is, but thought two Amendments, to be known as Nos. 1622-a and 1623-a should be added, to strengthen and clarify enforcement provisions of the Medical Practice Act, and to authorize the use of injunctions against any one found guilty of practicing illegally, and forbidding the practice of medicine without a license. This Committee was authorized to get a bill incorporating these recommendations before the General Assembly at its 1942 session.

Dr. Miller said there was an innovation he wished to make at the next meeting of the Society, if it meets with the approval of the Council, and that is the appointment of a committee from the Council to go over reports of the various committees in advance of the meeting and bring out the recommendations and points which should be discussed in detail, when these are called in the House of Delegates, as he feels this will save much time in the business sessions. The Council

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felt this might be of help and approved his adopting this plan for the coming session.

Under new business, Miss Edwards said she had been approached by one of the students of the Medical College of Virginia with regard to the Society placing a congratulatory advertisement in the *X-Ray*, the college annual. As the budget included no appropriation for such purpose, she was asked to present the matter to this body. The Council felt it unwise to undertake this as many similar calls might be made which it would be hard to refuse.

Dr. Blanton, editor, said his attention had been called to "The 1942 Blue Book" published by the *Wisconsin Medical Journal*, and he was so interested in it that he wondered how the councilors felt about devoting one issue of the MONTHLY to the publication of all laws pertaining to the practice of medicine in this State. In such case, it would be necessary to have the service of a lawyer to secure the material and it would probably cost $150 to $200. Upon motion, the editor was given authority to publish an issue of the MONTHLY similar to "The Blue Book" of Wisconsin, this authority carrying the additional appropriation if needed.

A suggestion had been made to have an afternoon session of the 1942 meeting at Catawba Sanatorium, and Dr. Powell, local chairman, thought this might be arranged. This was referred to the Program Committee.

Adjournment followed.

AGNES V. EDWARDS,
Secretary.

Approved:
ROSHIER W. MILLER, *President*
January 19, 1942.

Correspondence

Remuneration of Jail Physicians.

JANUARY 5, 1942.

TO THE EDITOR:

A matter which is in crying need of attention and remedy is the pay for jail physicians in Virginia. Every other state employee in the Old Dominion perhaps has had increase of pay in late years, while the jail physicians have still the same wholly inadequate compensation which they have received for the past century, it may be, and which is so entirely inadequate that it borders on the ludicrous.

The law as it now is—and has been since the memory of man runneth not to the contrary—permits the doctor who ministers to the sick in our jails to charge for his services seventy-five cents *per day* only—not per visit, but per day—even if he be called to the same jail patient three times or more per day, as has been the writer's experience on numerous occasions. The law makers apparently were fearful that some medico might amass too much wealth at this rate, so they cautiously provide that if he treats more than one patient on the same day he can legally charge only *fifty* cents per patient! No provision whatever made for extra pay for night calls, and none for surgical treatment, however extensive it may be.

Examining and prescribing for the patient is, however, the least part of it. Recently it has been decreed that a certain new form shall be used on which to render jail medical accounts. This form is too large to be used on the ordinary typewriter, so for most doctors it must be made out by hand—a separate sheet for each month, and two copies of each, making twenty-four sheets in all. As if this were not burdensome enough, the physician is then compelled to go to the jail register to ascertain the nature of the crime charged against each prisoner treated, and carry out his items into the appropriate column. Why this account's job is saddled upon the medical man has not yet been explained.

But this is not the end of the story. Having complied to the best of his ability with these burdensome exactions, he must go to the sheriff to certify to the correctness of the account, and then before clerk of court to make oath to it. Lastly, it has to be passed upon by the judge. Finally, the harassed medico is told that no matter how large or how small is his account he must not expect payment oftener than once a year!

The above is a true statement of jail medical work, as can be verified by reference to any jail physician. I submit that it is high time our legislative committee be informed of the imposition put upon a not inconsiderable number of members of the State Society—for there must be more than a hundred jails in the cities and counties of Virginia—and something done to induce the Legislature to relieve this deplorable situation.

Very truly yours,

INTERESTED DOCTOR.

Military Medicine

Recommendations to all Physicians with Reference to the National Emergency.

I. MEDICAL STUDENTS

A. All students holding letters of acceptance from the Dean for admission to medical colleges and freshmen and sophomores of good academic standing in medical colleges should present letters or have letters presented for them by their deans to their local boards of the Selective Service System. This step is necessary in order to be considered for deferment in Class II-A as a medical student. If local boards classify such students in Class I-A, they should immediately notify their deans and if necessary exercise their rights of appeal to the Board of Appeals. If, after exhausting such rights of appeal, further consideration is necessary, request for further appeal may be made to the State Director and if necessary to the National Director of the Selective Service System. These officers have the power to take appeals to the President.

B. Those junior and senior students who are disqualified physically for commissions are to be recommended for deferment to local boards by their deans. These students should enroll with the Procurement and Assignment Service for other assignment.

C. All junior and senior students in good standing in medical schools, who have not done so, should apply immediately for commission in the Army or the Navy. This commission is in the grade of Second Lieutenant, Medical Administrative Corps of the Army of the United States, or Ensign H. V. (P) of the United States Navy Reserve, the choice as to Army or Navy being entirely voluntary. Applications for commission in the Army should be made to the Corps Area Surgeon of the Corps Area in which the applicant resides and applications for commission in the Navy should be made to the Commandant of the Naval District in which the applicant resides. Medical R.O.T.C. students should continue as before with a view of obtaining commissions as First Lieutenants, Medical Corps, upon graduation. Students who hold commissions, while the commissions are in force, come under the jurisdiction of the Army and Navy authorities and are not subject to induction under the Selective Service Act. The Army and Navy authorities will defer calling these officers to active duty until they have completed their medical education and at least twelve months of internship.

II. RECENT GRADUATES

Upon successful completion of the medical college course, every individual holding commission as a Second Lieutenant, Medical Administrative Corps, Army of the United States, should make immediate application to the Adjutant General, United States Army, Washington, D. C., for appointment as First Lieutenant, Medical Corps, Army of the United States. Every individual holding commission as Ensign H. V. (P), U. S. Navy Reserve, should make immediate application to the Commandant of his Naval District for commission as Lieutenant (J. G.) Medical Corps Reserve, U. S. Navy. If appointment is desired in the grade of Lieutenant, (J. G.) in the regular Medical Corps of the U. S. Navy, application should be made to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

III. TWELVE MONTHS INTERNES

All internes should apply for a commission as First Lieutenant, Medical Corps, Army of the United States, or as Lieutenant (J. G.), United States Navy or Navy Reserve. Upon completion of twelve months interneship, except in rare instances where the necessity of continuation as a member of the staff or as a resident can be defended by the institution, all who are physically fit may be required to enter military service. Those commissioned may then expect to enter military service in their professional capacity; as medical officers; those who failed to apply for commission are liable for military service under the Selective Service Acts.

IV. HOSPITAL STAFF MEMBERS

Internes with more than twelve months of interneship, assistant residents, fellows, residents, junior staff members, and staff members under the age of 45, fall within the provisions of the Selective Service Acts which provide that all men between the ages of 20 and 45 are liable for military service. All such men holding Army commissions are subject to call at any time and only *temporary deferment* is possible, upon approval of the application made by the institution to the Adjutant General of the United States Army certifying that the individual is temporarily indispensable. All such men holding Naval Reserve commissions are subject to call at any

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time at the discretion of the Secretary of the Navy. Temporary deferments may be granted only upon approval of applications made to the Surgeon General of the Navy.

All men in this category who do not hold commissions should enroll with the Procurement and Assignment Service. The Procurement and Assignment Service under the Executive Order of the President is charged with the proper distribution of medical personnel for military, governmental, industrial, and civil agencies of the entire country. All those so enrolled whose services have not been established as essential in their present capacities will be certified as available to the Army, Navy, governmental, industrial, or civil agencies requiring their services for the duration of the war.

V. ALL PHYSICIANS UNDER FORTY-FIVE

All male physicians in this category are liable for military service and those who do not hold commissions are subject to induction under the Selective Service Acts. In order that their service may be utilized in a professional capacity as medical officers, they should be made available for service when needed. Wherever possible, their present positions in civil life should be filled or provisions made for filling their positions, by those who are (a) over 45, (b) physicians under 45 who are physically disqualified for military service, (c) women physicians, and (d) instructors and those engaged in research who do not possess an M. D. degree whose utilization would make available a physician for military service.

Every physician in this age group will be asked to enroll at an early date with the Procurement and Assignment Service. He will be certified for a position commensurate with his professional training and experience as requisitions are placed with the Procurement and Assignment Service by military, governmental, industrial or civil agencies requiring the assistance of those who must be dislocated for the duration of the national emergency.

VI. ALL PHYSICIANS OVER FORTY-FIVE

All physicians over 45 will be asked to enroll with the Procurement and Assignment Service at an early date. Those who are essential in their present capacities will be retained and those who are available for assignment to military, governmental, industrial or civil agencies may be asked by the Procurement and Assignment Service to serve those Agencies.

The maximal age for original appointment in the Army of the United States is 55. The maximal age for original appointment in the Naval Reserve is 50 years of age.

All inquiries concerning The Procurement and Assignment Service should be sent to The Executive Officer, 5654 Social Security Building, 4th and Independence Avenues, S. W., Washington, D. C., and not to individual members of the Directing Board or of committees thereof.

Miscellaneous

"The Foundation Prize"; American Association of Obstetricians, Gynecologists and Abdominal Surgeons.

(1) "The award which shall be known as 'The Foundation Prize' shall consist of $150.00."

(2) "Eligible contestants shall include only (a) interns, residents, or graduate students in Obstetrics, Gynecology or Abdominal Surgery, and (b) physicians (with an M. D. degree) who are actively practicing or teaching Obstetrics, Gynecology or Abdominal surgery."

(3) "Manuscripts must be presented under a nom-de-plume, which shall in no way indicate the author's identity, to the Secretary of the Association together with a sealed envelope bearing the nom-de-plume and containing a card showing the name and address of the contestant."

(4) "Manuscripts must be limited to 5,000 words, and must be typewritten in double-spacing on one side of the sheet. Ample margins should be provided. Illustrations should be limited to such as are required for a clear exposition of the thesis."

(5) "The successful thesis shall become the property of the Association, but this provision shall in no way interfere with publication of the communication in the Journal of the Author's choice. Unsuccessful contributions will be returned promptly to their authors."

(6) "Three copies of all manuscripts and illustrations entered in a given year must be in the hands of the Secretary before June 1st."

(7) "The award will be made at the Annual

Meetings of the Association, at which time the successful contestant must appear in person to present his contribution as a part of the regular scientific program, in conformity with the rules of the Association. The successful contestant must meet all expenses incident to this presentation."

(8) "The President of the Association shall annually appoint a Committee on Award, which, under its own regulations shall determine the successful contestant and shall inform the Secretary of his name and address at least two weeks before the annual meeting."

JAS. R. BLOSS, M. D., *Secretary*,
418 Eleventh St., Huntington, W. Va.

Public Health Statistics

I. C. RIGGIN, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for December, 1941, compared with the same month in 1940 and for the period of January through December, 1941, compared with the same period in 1940, follows:

	Dec. 1941	Dec. 1940	Jan.-Dec. 1941	Jan.-Dec. 1940
Typhoid and Paratyphoid Fever	29	17	343	275
Diarrhea and Dysentery	78	70	5,581	1,878
Measles	485	412	35,601	4,171
Scarlet Fever	249	197	1,716	1,781
Diphtheria	122	88	760	709
Poliomyelitis	7	11	154	241
Meningitis	4	4	100	73
Undulant Fever	1	1	16	23
Rocky Mountain Spotted Fever	1	0	34	46
Tularemia	13	9	35	49

TYPHOID CARRIER PROGRAM

During the past year the State Department of Health intensified its program of contacting those persons who in the past had been reported as typhoid carriers. Included in this activity was fact-finding concerning the present social environment and occupation of the carrier.

The local health departments throughout Virginia were furnished a list of suspicioned and known carriers. Investigation by the local units was limited to those still residing in the respective districts. Carriers living in counties without health departments or who had moved from such areas, were followed up direct by personnel of the Departments' Bureau of Communicable Diseases. In cases where the person reported had moved to another state, the authorities there were furnished promptly with the Department's available information in order to complete the investigation.

Histories relating to the past infection and the contacts who developed the disease were obtained in the majority of instances. In obtaining histories in cases under suspicion, efforts were made to determine whether the history was characteristic of the disease and whether at the time the case was reported a laboratory had found the stool repeatedly positive.

In all cases an unbroken occupational chain was obtained; in this way typhoid fever occurring in contacts could be traced to the probable source of infection.

Many carriers were found to have resorted to surgery to eliminate the danger of spreading the disease. Others have limited their activities to those fields where food would not be handled.

Instruction in personal hygiene was given in each case investigated and a complete review of the sanitary measures in the home was undertaken. Typhoid immunization was urged for all those in close personal contact with a carrier.

Many of the older cases originally reported to the Department in years past now are in the inactive file due to death.

Investigations indicate that the actual number of carriers has decreased. Periodically all carriers will be visited by a representative of the State Department of Health.

Woman's Auxiliary
to the
Medical Society of Virginia

President—MRS. E. LATANE FLANAGAN, Richmond.
President-Elect—MRS. H. W. ROGERS, Norfolk.
Recording Secretary—MRS. HAROLD W. POTTER, Hilton Village.
Corresponding Secretary—MRS. A. S. LILLY, Richmond.
Treasurer—MRS. REUBEN F. SIMMS, Richmond.
Chairman, Press and Publicity—MRS. HENRY M. SNEAD, Petersburg.

The Physician's Wife and This War.

In my inaugural address, I stated that the Auxiliary to the Medical Society of Virginia faced the most challenging year since our organization. That

challenge is now a reality. Our country is at war. We remember Pearl Harber. Being in San Diego as I was on December the seventh and entirely too close for comfort makes me so war conscious I can't wait to call each of you to respond at once to the opportunities that are ours for helping in this emergency. What can we do? As women there is plenty and as the wives of physicians it is just a little more important for us to do the job and do it well. We must make an outstanding contribution in the field of Health Education to every group of organized women to which we belong. My theme for the year "Educate and Evaluate" suggests the very first thing I want to mention. Take the courses of study offered women, meet the requirements, and become teachers. Register for local volunteer service ready to do the thing that needs to be done. Stand by your local Auxiliary President when she plans a joint meeting of all women's organizations—church, civic, social, patriotic, etc.—with a speaker on nutrition approved by your local advisors. Attend your medical auxiliary meetings because it's here you are going to get the information you need to help you in your evaluations. Help cancer control, study the legislative program, and be able to assist our state legislative chairman with understanding. Entertain the soldiers and the wives of physicians in service. Buy Defense Bonds and Stamps. Fighting isn't new to us because our doctors are always fighting disease and we share with them the determination to fight harder for the rest of this year.

Our Board meets January 30 at the Academy of Medicine Building in Richmond at 11 o'clock, and our State meeting is to be in Roanoke, October 5, 6, and 7. Make your plans to come because it is this counseling together that gives us strength for the task that is ours as physicians' wives in this war.

(MRS. E. LATANE) LOUISE W. FLANAGAN,
President, Auxiliary Medical Society of Virginia.

Letter from a Past President.

DEAR AUXILIARY MEMBERS:

It seems such a long time since I have greeted you through the pages of the VIRGINIA MEDICAL MONTHLY—and so very much has happened.

Two years ago we were all excited over the question of Socialized Medicine—do you remember? And today it really seems—well, of not so much importance, surely, facing as we do the most tragic moment in history.

When we think of the suffering and hunger and pain throughout the world, and, since in the Far East it has entered our own lives, we are beginning to realize what we face these coming months. Never before have we, as the wives of medical men, had a greater role to play. Ours must be staunch, brave hearts and willing hands to assist our husbands who are all busy with defense work—many now in service—assist in the community work, Red Cross, and everywhere we are needed.

If Democracy wins it is up to not only the men and boys but women of all ages and classes. We simply do not realize the gravity of the situation and never will, I am afraid, unless we stop thinking that in some way we are especially guided and protected and realize that what happened in France and England can happen here.

Not only must we be glad to work, not only may we with brave hearts meet what comes, but we all have the power to vote and help keep the greatest system of free government the ages have ever known safe for those coming after.

We have a fine President this year and a splendid Board of helpers who are ready at any time to advise and help us. So let us, as an Auxiliary of some of the finest women in the State of Virginia, really work and give. Buy defense stamps and bonds until it hurts. A few less parties, a few less luxuries of life will not hurt us at all.

And now in closing there is one thing I know you have learned — friendship and love. For in the months of suffering I have been through there has scarcely been one week that some one of my Auxiliary family throughout the state has not written to me. I shall not only keep the letters, but the most tender memories of you who took the time from your busy lives to write me words of cheer.

Let us keep smiling, let us keep up our morale, let us keep working and let us all pray that soon peace, a lasting peace, may come to the whole world.

POLLY GRAHAM LATANE.
(MRS. HENRY AUGUSTINE LATANE).

Norfolk Auxiliary.

The Seaboard Medical Society met at the Cavalier Hotel, Virginia Beach, December 2, 3, 4, 1941, and the wives of the members were entertained by the Auxiliary of the Norfolk Society at a luncheon at the hotel on the 3rd, followed by bridge. Fifty members were entertained. On December 4, a Bingo Party was held which was enjoyed by all the members present.

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The chief defense work activity which is being done collectively by the Auxiliary is that we have taken charge of one day at Red Cross Headquarters in cutting and assembling hospital garments. Mrs. C. C. Cooley is Chairman of this work.

A Public Relations Tea will be held the 14th of January, in the Library of the Medical Arts Building. To this Tea will be invited members of other organizations through the city.

LILA IDE SMITH.
(MRS. C. C. SMITH).

The Williamsburg-James City Auxiliary

Met with Mrs. B. I. Bell on January 6. We were indeed happy to welcome several of the Fort Eustis doctors' wives to our meeting. The movie "Bobby Goes to School", sponsored by the Auxiliary and shown by a Mead Johnson representative at the Mathew Whaley School was reported to have met with great approval.

Several members are taking the First Aid course given for Defense Work. Captain R. L. Sutton of Fort Eustis gave an interesting and helpful talk on "First Aid".

MRS. E. T. TERRELL,
President, Williamsburg-James City Auxiliary.

Northampton-Accomack Auxiliary.

The regular meeting of this Auxiliary was held on January 6, at the home of Mrs. W. L. Cosby in Painter. Preceding the business session, a lovely luncheon was served by the hostess. Mrs. Holland Trower, president for the current year, presided. The meeting was opened with the Lord's prayer, following which Mrs. Trower made a short talk giving her aims as president and stressing the responsibilities of all the members in the present emergency our country faces.

The minutes of the last meeting were read. The treasurer reported and the chairmen of the standing committees were announced. After the routine business was attended to, a food sale was held which netted $4.20 to the treasury. A delightful musical program followed, presented by Mrs. W. L. Cosby and Mrs. Polk Kellam, violinists, and Mrs. Franklin Gibb, pianist. Those present were Mesdames Critcher, S. S. Kellam, Robertson, Burwell, Green, John B. Mears, Jackson, Denoon, W. B. Trower, Gladstone, B. N. Mears, DeCormis, Cosby, Fletcher, E. H. Trower, Downing, Lynch and Hamilton.

Book Announcements

Books received for review are promptly acknowledged in this column. In most cases, reviews will be published shortly after the acknowledgement of receipt. However, we assume no obligation in return for the courtesy of those sending us the same.

Social Hygiene and Youth in Defense Communities, by MAURICE A BIGELOW. A report on a cooperative study between the U. S. Public Health Service and the American Social Hygiene Association. 16 pages, price 10 cents. Publication No. A410.

An Approach to Sex Education in Schools. No. 1 of a series of bulletins on Education for Family Life prepared by the Education Committee of the New Jersey Social Hygiene Association. 8 pages, price 10 cents. Publication No. A365.

Education for Human Relations and Family Life on the Secondary School Level; A Tentative Program and Correlated Outline with Suggestions for a Briefer Program of Minimum Essentials. No. 2 of a series of bulletins on Education for Family Life prepared by the Education Committee of the New Jersey Social Hygiene Association. 32 pages, price 25 cents. Publication No. A392.

The Art and Science of Nutrition. A Textbook on the Theory and Application of Nutrition. By ESTELLE E. HAWLEY, Ph.D., and GRACE CARDEN, B.S., The University of Rochester, School of Medicine and Dentistry, Rochester, N. Y. St. Louis. The C. V. Mosby Company. 1941. 619 pages. With 140 Illustrations including 12 in color. Cloth. Price $3.50.

Dr. Hawley and Miss Carden have done an excellent piece of work in placing before the student the essential facts of nutrition and diet therapy. The material is presented in an attractive and readable form; in language that is not too technical for the student with no previous nutritional background to understand.

The first part of the book is devoted to Normal Nutrition with chapters on Digestion, Metabolism, Proteins, Fats and Carbohydrates. The Vitamins and Vitamin Deficiencies, is an excelllent chapter, giving a brief history of the vitamins and detailed information as to vitamin requirements, symptoms of deficiencies, best food sources and so on. The material in this chapter is very modern and up-to-date and the newer filtrate factors are named and discussed. Excellent illustrations, some in color, demonstrate graphically the deficiency diseases due to lack of a vitamin adequate diet.

Part II is devoted to the Food Requirements Under Special Conditions. Here a discussion of the nutritional needs during Pregnancy, Lactation and Old Age will be found. The Feeding of Infants and Children is also adequately discussed.

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The chapters devoted to Diet Therapy, Part III, are especially good. Excellent material is presented and evaluated in these chapters; and the one on Diabetes Mellitus is unusually informative.

A section devoted to Laboratory plans and Lessons; and an excellent Appendix complete this volume. It is readable, illustrated and well suited for a textbook or a reference book for nutritionist, dietitian, doctor or student.

ELIZABETH BURRUSS.

Manual of The Diseases of The Eye. For Students and General Practitioners. By CHARLES H. MAY, M. D., Consulting Ophthalmologist to Bellevue, Mt. Sinai and French Hospitals, New York; etc. Seventeenth Edition, Revised with the Assistance of CHARLES A. PERERA, M.D., Associate in Ophthalmology, College of Physicians and Surgeons, Medical Department of Columbia University, New York; etc. Baltimore, William Wood and Company. 1941. viii-519 pages. With 387 Illustrations including 32 Color Plates, with 93 Colored Figures. Cloth. Price $4.00.

The seventeenth edition of May's Diseases of the Eye is a very good volume. The author has continued his original plan of presenting a concisely written book on ophthalmology for the under-graduate student and general practitioner. There have been a few changes bringing the contents up to date. The chapter on ocular injuries and the appendix on ocular requirements for admission to the army, navy, marine and aviation services, are well worth a complete study by the general practitioner.

L. B. SHEPPARD, M. D.

Handbook of Communicable Diseases. By FRANK H. TOP, A.B., M.D., M.P.H., Director, Division of Communicable Diseases and Epidemiology, Herman Kiefer Hospital and Detroit Department of Health; Associate Professor of Preventive Medicine and Public Health, Wayne University, College of Medicine; etc. And Collaborators. St. Louis. The C. V. Mosby Company. 1941. 682 pages. With 73 text illustrations and 10 color plates. Cloth. Price $7.50.

Dr. Franklin Top is at present director of the division of communicable diseases and epidemiology at the Herman Kiefer Hospital and Detroit Department of Health. His collaborators in this volume are all members of the staff of either the Wayne University College of Medicine in Detroit or the Detroit Department of Health.

The book is intended as a handy reference on the subject. It is concise and succeeds in its aim to present only such information as is essential for practical diagnosis, treatment, and prevention. The approach is unique inasmuch as the diseases are classified according to the predominant portal of entry. In this regard it is interesting that even though Dr. Top feels that the gastrointestinal tract is probably the common portal of entry for the poliomyelitis virus, he still considers this sufficiently doubtful to classify poliomyelitis with those diseases where the nasopharynx is the entry portal.

One notes with much satisfaction the excellent and numerous pictures and especially the color plates of the contagious diseases, of which too few have previously been published. These better than any description will help persons unfamiliar with these diseases to visualize them. Appended is a compilation showing the incidence of the various diseases and their complications at the Herman Kiefer Hospital.

This book will be a useful addition to the libraries of men in public health and in practice who deal with the communicable diseases.

B. M. KAGAN, M. D.

Shock Treatment in Psychiatry. A Manual. By LUCIE JESSNER, M. D., Ph.D., Resident Psychiatrist, Baldpate, Georgetown, Mass.; Graduate Assistant in Psychiatry, Massachusetts General Hospital; etc. And V. GERARD RYAN, M.D., Associate Psychiatrist, Elmcrest Manor, Portland, Conn; Assistant in Psychiatry, Harvard Medical School. Introduction by Harry C. Solomon, M. D., Clinical Professor of Psychiatry, Harvard Medical School; Chief of Therapeutic Research, Boston Psychopathic Hospital. New York. Grune & Stratton, Inc. 1941. xv-149 pages. Cloth. Price $3.50.

With due regard to the limitations of our present knowledge of shock therapy, this timely volume should be well received by the medical profession. It deals briefly and succinctly with the use of insulin, metrazol and electro shock treatment in mental diseases. Each therapy is divided into its historical background, technique of treatment, modifications, complications, laboratory and clinical findings, and evaluation of improvement.

The neuropsychiatrist will find this book of great value in the actual technique of shock treatment. To the general practitioner it will be a clear, concise review of a fascinating subject. This book contains an excellent bibliography.

LOUIS KOLIPINSKI.

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WYNDHAM B. BLANTON, M. D.
Editor

AGNES V. EDWARDS
Business Manager

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All correspondence regarding editorial matter, original articles, and policy should be directed to the Editor. Questions relating to subscription rates, advertising, etc., should be addressed to the Business Manager, 1200 East Clay Street, Richmond, Virginia. The MONTHLY is not responsible for the opinions and statements of its contributors. All advertisements are accepted subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association. Annual Subscription, $2.00. Single Copies, 25c.

VOL. 69. FEBRUARY, 1942. No. 2

Editorials

A Proposed Bill to Improve the Medical Practice Act

THE practice of medicine in Virginia is regulated and controlled by certain statutes known as the Medical Practice Act, and violations of the provisions of this Act are punishable as ordinary crimes by fine or imprisonment, or both. The result is that a person practicing without a license is proceeded against in a criminal court, is given the right of a trial by jury with the burden on the Commonwealth of proving guilt beyond any reasonable doubt, and of course relies on every possible technicality to obtain an acquittal or a reversal of the judgment by an appellate court. Unavoidable delays occur, and even where guilt is finally established, the accused has been able to continue his illegal practice for months or years while counsel have carried his case from the original warrant to a final decision in the Supreme Court of Appeals. Even then a reversal on technical grounds, as in a recent case from Staunton, would start the long proceeding all over again.

In many states the criminal prosecution of illegal practitioners has been largely supplanted by a simple proceeding in a court of equity in which the judge hears the evidence, and, if illegal practice is proved by a preponderance of the evidence, enters an order restraining the practitioner from further violation of the Act. Failure to comply with the order is then punishable as contempt of court. The right of appeal is of course preserved, but the whole procedure is simplified and freed of unnecessary technicalities. The courts in a large number of states grant restraining orders or injunctions against unlawful practice without express statutory authority, while in others such statutes have been held necessary. In Virginia it seems wise to expressly confer this power on the courts in order that their right to act may be unquestioned, and it is proposed to do this by presenting to the General Assembly of 1942 for passage a bill amending the Medical Practice Act by adding a new section, numbered 1623-a, authorizing the use of injunctions to prevent illegal practice.

The proposed bill confers upon the circuit and corporation courts the power to enjoin and restrain the practice of medicine in any of its branches in the State of Virginia without a valid certificate or license issued by the State Board of Medical Examiners and duly recorded. A suit for the purpose of obtaining such an injunction may be instituted by the State Board of Medical Examiners, by the Attorney for the Commonwealth, or by one or more duly licensed practitioners of medicine in any of its branches. No in-

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junction may be granted until a hearing on the merits has been had, this making unnecessary the bond usually required when injunctions are granted prior to a hearing. Under this procedure the unlicensed practitioner is given the right to meet in open court and if possible to refute the charges preferred against him, but if found guilty he is promptly enjoined from further practice until a license is obtained. This procedure is in line with that followed in many of the most progressive states, and the enactment of the proposed bill into law will be very helpful in meeting the dangerous situation caused by the influx into Virginia of unlicensed practitioners who have been denied the right to practice in other states.

Be Helpful

IF each member of the Medical Society of Virginia into whose hands this issue of its official organ comes would tear out the above editorial and send it with a word of approbation to his representatives in the Virginia Senate and House of Delegates he would probably insure the easy passage of a bill which would instrument the present medical practice act and guarantee forever the effective elimination of the cults from our body politic.

The Effects of the War on Medicine in Great Britain

SIR WILSON JAMESON, chief medical officer of the British Ministry of Health, on a mission to this country, revealed in an address before the New York Academy of Medicine on November 3rd some rather astonishing things about the effects of the war on medicine in the British Isles. After confessing the failure of the Emergency Medical Hospital Service which had been created upon the expectation of casualties greatly in excess of those actually experienced, and admitting that before it had been abandoned serious dislocation of the whole hospital system as well as demoralization of the medical profession had occurred, he pointed out that at least one advantage had accrued—namely, the closer integration of the voluntary and public hospitals with definite assurance from the government that in the future the hospital system in Great Britain will be left to its present management although all hospitals will be brought under a uniform plan with government grants to those institutions not having the status of the public hospital.

His remarks as regards medical education indicated that although the war had had an unfavorable effect upon preclinical instruction it had in some respects improved the practical instruction of medical students. He denied that the length of the medical course had been changed although stating that senior students are now required to do junior interne work in order to expedite their preparation for practice. There has been no reduction in the number of students admitted to medicine. Among the interesting effects of the war Sir Wilson stated that the suicide rate has declined, that there has been no increase of alcoholism and that the psychoneuroses are almost a thing of the past—a serious development for the psychiatrists who now find themselves "bereft of practice". There was a bit of warning in his statement that in spite of pre-war opinion to the contrary Great Britain was now suffering from a serious deficiency of physicians and that some sort of redistribution of medical personnel was in the offing. The general practitioner is having a rough time of it, being responsible on an average for a population of 4,000.

The raids on London have apparently done tremendous damage to hospitals which will result in a post-war redistribution. Of 78 public hospitals in London County 72 have been hit in one way or another. Astonishingly enough, however, only 200 patients and 44 staff members have been killed. The nutrition of the British people is now receiving scientific study by the Medical Research Council aided by the Rockefeller Foundation. As is to be expected no satisfactory yard stick for measuring such deficiency has yet been discovered. Young adults and workers on defense jobs have been the chief sufferers and there has been a sharp rise in the tuberculosis rate among young female workers.

The expected epidemics have not occurred, barring a small outbreak of 12,000 cases of cerebro-spinal meningitis in 1940 and a few outbreaks of paratyphoid fever and trichinosis. Typhoid fever and influenza have not put in their appearance.

Sir Wilson concluded his address by some significant remarks which may have application in this country before this conflict has been brought to a satisfactory conclusion. He observed that among doctors in the service there is no talk of getting back to practice. "Nobody wants to get back to the old job." The old jobs are gone. They want to work in a different way. It was the opinion of this British authority that the English medical profession is getting socially minded and that these changing ideas are destined in the future to have a salutary effect in raising the level of practice in Great Britain.

We Know More

IT is heartening to all of us to realize that the medical profession enters the present conflict armed with new tools, new procedures and new knowledge that give promise of reducing casualties. Although the war confronts us with fresh and serious problems, such as the devastating effects of the thin-walled high explosive shell and the increased number of burns, improved methods in military surgery and medicine will more than offset them. Simply to list these procedures is encouraging. Surgery of the heart, of the brain and of the nerves has made tremendous advances since the last war. Immobilization of wounds is a procedure of proven value. The envelope treatment of burns gives promise of success. The widespread employment of plasma is receiving deserved recognition. Testosterone in the treatment of some of the psychic aftermaths of war and the vitamins are now accepted instruments of therapy. Typhus vaccine and a better understanding of the general public health problems of the mass collection of soldiers is a part of our armamentarium. It is even likely that the communicable diseases, especially the so-called diseases of childhood which played such havoc with our armed forces in the last war, may be controlled by a proper appreciation of susceptibility gained by means of adequate histories obtained at the time of enlistment.

Successful Doctors

WE have a sneaking suspicion that the life of a successful doctor is just as interesting to medical as to lay readers, and that is saying a great deal. There are few doctors who do not wish to improve themselves and there is no more wholesome way of doing this than by reading good biography.

The Doctors Mayo, written by Helen Clapesattle and published by the University of Minnesota Press, is not only an account of the lives of Drs. William and Charlie Mayo, and of their inimitable father, William Worrell Mayo, but also of the Mayo Clinic, an institution which is showing itself to be endowed with a vitality that will insure its continued survival despite the death of its founders.

Although many factors undoubtedly entered into the success of the Mayos the essential elements are probably not beyond the comprehension of the discerning analyst. In the first place it must be realized that the Mayos came upon the scene at a time in the development of surgery peculiarly favorable for its use on the grand scale. The discoveries of Pasteur and Lister and of early American pioneers, such as Halsted, Price and Murphy, revealed a field the Mayos were not slow in appropriating. They were also fortunate in beginning and continuing their venture in the wide and undeveloped country west of the Mississippi. They were wise in staking out their claims in Rochester rather than in one of the larger cities to which less judicious men might have been lured. They were without competitors in their community and they made the most of the fact.

In the next place the Mayos intuitively appreciated the importance of team work. They not only originated the idea of group practice but more than any of their later imitators they succeeded in making their idea work. The novelty of the plan, the successes which it achieved, made good copy and they were unconsciously better advertised to the American people than any similar group of doctors has ever been.

When to these factors was added the genius of Will Mayo for organization, of Charlie Mayo for making friends and of both for appropriating the best of what they found around them and of carrying it a step further in effectiveness, the success of the Mayo Clinic was assured and its success is not difficult to comprehend.

One other fact remains to be noted and that is that nothing succeeds like success.

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Nine Lives

DISEASES OF WOMEN (Harry Sturgeon Crossen and Robert James Crossen, St. Louis, C. V. Mosby Company, 1941) will by no means be confined in its use to the gynecologist and obstetrician. The ninth edition of this book, already a favorite with many physicians, will be welcomed not only for its past worth, but for its inclusion of much new and valuable material. The same clear and systematic text and an increased wealth of illustration commend this edition. The development of our knowledge concerning the diseases of women spreads over many decades, and this book reflects the progress made in its consideration of such subjects as pelvic inflammation, tubal pregnancy, serologic diagnosis, histologic examinations for cancer, roentgenographic visualization of uterus and tubes, the endocrines, the vitamins and allergy. The authors wisely approach their subject from a physiologic point of view and lay much stress upon the new knowledge which has revealed some of the intricacies of the interrelations of hormones, endocrines, sympathetic and parasympathetic balance. The emphasis, wisely, has been shifted from gross structure to cellular pathology and physiologic dysfunction.

Local Societies

The Northampton County Medical Society

Met on January 12th at which time Dr. William Grossmann, Epidemiologist with the State Health Department, outlined plans for the Emergency Medical Care of civilians in case of disaster.

Dr. S. K. Ames, Chief of Emergency Medical Service in Cape Charles, and Dr. W. Y. Garrett, Chief of Emergency Medical Service in the remainder of Northampton County, spoke more specifically of plans being made in their respective territories, the same being well under way.

Dr. W. T. Green, Jr., was appointed as a Committee to distribute Defense literature to the offices of the physicians.

Dr. J. W. Jackson was appointed as Advisor from the Society to the Women's Auxiliary of the Northampton and Accomack County Medical Societies.

Election of officers resulted as follows: President, Dr. J. R. Hamilton, Nassawadox; vice-president, Dr. W. T. Green, Nassawadox; and secretary-treasurer, Dr. W. C. Henderson, Nassawadox.

W. C. HENDERSON, M.D., *Secretary.*

Warwick County Medical Society.

The 1942 officers of this Society, elected recently, are: President, Dr. H. W. Potter; vice-president, Dr. Paul Hogg; and secretary-treasurer, Dr. John F. Gayle. All are of Newport News.

Danville-Pittsylvania Academy of Medicine.

At the annual meeting of the Academy, the following were elected as the 1942 officers: President, Dr. Snowden C. Hall, Jr.; vice-presidents, Dr. Prentice Kinser, Jr., and Dr. E. W. Arnett, Jr.; and secretary-treasurer, Dr. Charles A. Easley, Jr. All are of Danville.

The Tazewell County Medical Society

Held its last meeting in North Tazewell on January 8. Dinner preceded the program. Dr. Linwood Farley of Richlands had charge of the program and showed a moving picture produced by Eastman Kodak Company on "The Diagnosis and Treatment of Infections of the Hand". This interesting and instructive picture was discussed by Dr. Norman Patterson of Richlands.

Dr. Rufus Brittain of Jewell Ridge is president and Dr. Mary Elizabeth Johnston of Tazewell secretary of this Society.

Lynchburg Academy of Medicine.

In the January MONTHLY, names of the new officers for the Academy were given, it being stated that the secretary-treasurer would be elected by the trustees later. Dr. C. E. Keefer resigned and Dr. James A. Wilkins of Lynchburg was elected to this office. Dr. John Hundley, Jr., is president.

News

The Tri-State Medical Association of the Carolinas and Virginia

Will have its annual meeting the latter part of February in Greenville, S. C., under the presidency of Dr. Addison G. Brenizer of Charlotte, N. C. Plans had not been completed at the time of our going to press but further information may be obtained from Dr. J. M. Northington, secretary, Charlotte, N. C.

Medical College of Virginia News.

Dr. E. W. McHenry of the University of Toronto and Mr. Jackson Davis of the General Education Board were recent college visitors.

Dr. George E. Snider, Dr. James Burke, and Dr. Gilman R. Tyler have received their commissions as captains in the United States Army. These three alumni served in the hospital division of the college and were called to the service last year. They are located at the Lawson General Hospital, Atlanta, Georgia.

The Phelps-Stokes Fund has made a grant of $100.00 for the Saint Philip School of Nursing Library.

The new wing of the Saint Philip Hall, made possible through a grant of $130,000 from the General Education Board, will be completed this month. This new addition will provide seventy-four new bedrooms, enlarged library and classroom facilities. The enrollment of this separate Negro unit of the institution has doubled in recent years.

The Southern Medical Association has accepted the invitation to hold its annual meeting this year in Richmond and will use college facilities to a considerable extent. The meeting is tentatively scheduled for November 9, 10, 11, and 12.

President W. T. Sanger and Dean Lee E. Sutton, Jr., will attend the annual meeting of the Council on Medical Education and Hospitals of the American Medical Association, and President Sanger will also attend the annual meeting of the Dental Council of the American Dental Association. Both meetings will be held in Chicago.

Dr. William B. Porter, professor of medicine, will be one of the speakers on the program of the New Orleans Graduate Medical Association, March 2. This program will be sponsored by Tulane University school of medicine.

Dr. H. Hudnall Ware, Jr., associate professor of obstetrics, will attend a meeting of the Tri-County Medical Association, Fairmont, W. Va., January 27, and speak on Ectopic Pregnancy. Dr. Ware will also attend the annual meeting of the Board of Directors of the Birth Control Federation of America in New York City, January 29-30.

The Medical College of Virginia will begin a four-quarter schedule about the first of July in order to accelerate medical training during the war emergency. This will permit students to graduate in three years. However, there will be no lowering of entrance requirements or of the present curriculum.

News from the University of Virginia.

Following the close of the current nine-months session the Medical School of the University of Virginia will change to a twelve-months basis; work will be conducted the year round for the duration of the national emergency. Continuous operation of the Medical School will reduce the period of medical training from four to three years. The session 1942-43 will open on June 29, and will comprise four quarters of eleven weeks each. No radical changes are contemplated in the current curriculum, except that electives will be discontinued and a substitute course will be immediately organized in Essentials of Military Medicine, comprising traumatic surgery, first aid, blood plasma banks, neuropsychiatry, preventive medicine and aviation medicine.

Dr. L. Nelson Bell,

Formerly of Tsingkiangpu, China, has located at Swannanoa, North Carolina. He has been appointed visiting surgeon at the Mission, St. Joseph's and the Biltmore Hospitals in Asheville.

American Congress on Obstetrics and Gynecology.

The Committee sponsoring the next Congress of this organization believe that, notwithstanding the war situation, it should be held as previously sched-

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uled and are proceeding with their plans to have the gathering in St. Louis, April 6-10, an outstanding one. Inquiries as to the Congress may be addressed to the Central Office, 650 Rush Street, Chicago, Illinois.

Dr. H. W. Hollingsworth,

Formerly of southwestern Virginia, after a short time spent in Tennessee, has returned to Virignia and is now at Leona Mines.

Dr. John Evan Alexander,

Recently on the staff of the Gill Memorial Eye, Ear and Throat Hospital, Roanoke, has located in Evansville, Indiana, with offices in Hulman Building, and is engaged in the practice of his specialties.

Award For Study and Treatment of Rheumatic Fever.

An award of $1,000 to assist the outstanding work done by Irvington House, of Irvington-on-Hudson, N. Y., in the study and treatment of rheumatic fever, has been made by The Borden Company.

The Sanatorium, known as "The House of Mending Hearts," houses about one hundred young, underprivileged patients. Its splendid work in caring for patients with rheumatic heart disease has brought to Irvington House great distinction and inquiries have been received from as far as South America and Australia on the matter of setting up of convalescent homes for cardiac youngsters.

Specialized care and supervised living are provided for many months for underprivileged children afflicted with rheumatic heart disease, so that they may be able to assume their rightful roles as useful citizens.

American Board of Obstetrics and Gynecology.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted at Atlantic City, N. J., by the entire Board, from Wednesday, June 3, through Tuesday, June 9, 1942, prior to the opening of the annual meeting of the American Medical Association.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 1, 1942.

Candidates for *re-examination* in Part II must make written application to the Secretary's Office before April 15, 1942.

The Secretary will be glad to furnish forms upon request, together with information regarding Board requirements. Address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Penna.

Dr. Thomas E. Painter,

Recently of Radford, has located in Pulaski and is now chief physician for Mason and Hanger Construction Company at Dublin.

Dr. Albert G. Schnurman,

Recently with the Radford Ordnance Works, left that place last September and went to Boston where he studied under Dr. Paul White, and from there to the Mayo Clinic for several weeks, later attending the International Post-Graduate Assembly. He expected to locate in Roanoke for the practice of medicine but his plans were changed by the war, and he now expects to enter the U. S. Naval Reserve.

Dr. Fred J. Wampler,

Professor of Preventive Medicine, Medical College of Virginia and chairman of the Committee on Industrial Health of the State Society, was on the program of the Fourth Annual Congress on Industrial Health, held in Chicago, January 12 to 14, and was also appointed by Dr. Roshier W. Miller as delegate from the Medical Society of Virginia.

$150.00 Prize Offered.

Under the Miscellaneous Department in this issue of the MONTHLY appears a notice of the "Foundation Prize" to be awarded by the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, with rules governing the award. If interested, this may be found on page 104.

Mead's Medical Sports Review,

In its last issue, featured the reproduction in full color of some of the National Wildlife Federation stamps on the front cover. The magazine is attractive and interesting as it is comprised of pictures, news items, and other bits obtained from doctors who believe that physicians should play as hard as they work.

Married.

Dr. William Edwin Dickerson of Danville and Mrs. Cecil May Graeter of Richmond, January 3.

Dr. Angus Crawford Randolph, lieutenant, U. S. Army, of the class of '40, University of Virginia, and Miss Marjorie Armstrong McLernon of San Antonio, Texas, December 20. Lieut. Randolph has

just graduated from the School of Aviation Medicine at Randolph Field, and will be stationed at Kelly Field as flight examiner.

Dr. Philip Carey Whitehead and Dr. Betty Gordon Willis, both of the class of '41, University of Virginia, December 25. Dr. Whitehead is serving his internship at the Montreal General Hospital, Montreal, Canada, and his wife is serving at Gallinger Municipal Hospital, Washington, D. C.

Dr. Charles D. Schilling, now interning at the University of Virginia Hospital, and Miss Alice Thompson of Gretna, January 10.

Dr. James Tate Mason, class of '40, University of Virginia, and Miss Margaret Elizabeth Thomas of Bluefield, W. Va., January 10. Since completing his internship at Bellevue Hospital in New York City, Dr. Mason has been on active duty in the medical corps of the U. S. Navy.

Lt. Charles H. Dow, M. C.,

Formerly of Chilhowie, announces his transfer from Fort George G. Meade, Md., to School of Aviation Medicine, Randolph Field, Texas.

Dr. John F. Woodward, Jr.,

A senior surgeon in Manhattan Ear, Nose and Throat Hospital, New York City, was the guest speaker before the Norfolk County Medical Society on January 12, his subject being "Our Health—Yesterday and Today: A Study of Acute Otitis Media and Mastoiditis and Their Relation to Public Health".

Dr. June U. Gunter,

Recently at Jefferson Hospital, Roanoke, announces that he is now at Norfolk Naval Hospital, Portsmouth, Va.

Dr. Grant R. Elliott

Of Orange, now a major in the Medical Corps,, U. S. A., is at present taking a post-graduate course in Aviation Medicine and, upon completion of the course about April 1, expects to return to the Savannah Air Base.

New Member of State Hosptial Board.

Governor Price has appointed Dr. J. Shelton Horsley of Richmond as a member of the State Hospital Board to succeed Dr. R. Finley Gayle, also of Richmond. Dr. Gayle's term of office expired June 30, 1939, but he had been continuing to serve until his successor was appointed. Dr. Horsley's appointment will end June 30, 1943.

Dr. Snowden C. Hall, Jr.,

Danville, has been re-elected medical director of Hilltop Sanatorium in that city for the coming year.

Personnel Notes from State Health Department.

Dr. W. E. Roye, formerly health officer of the Alleghany-Botetourt Health District at Covington, Virginia, has been transferred to the Tuberculosis Out-Patient Service of the State Health Department's central office, Richmond.

Dr. Daniel Hope, Jr., formerly assistant health officer of the Brunswick-Greensville-Mecklenburg Health District, has been transferred as health officer to the Alleghany-Botetourt Health District.

Effective January 1, 1942, Dinwiddie County joined with Sussex-Prince George Counties as a health district under Dr. F. J. Clements, Health Officer.

For Sale:

Used medical microscope. First class condtion. Address "Microscope", care this journal, 1200 East Clay Street, Richmond. (*Adv.*)

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X-Ray Unit with complete Dark Room equipment. Must sell immediately at a sacrifice. Located in Virginia. Owner called in Army. Address "X-Ray", care VIRGINIA MEDICAL MONTHLY, Richmond. (*Adv.*)

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Obituaries

Dr. Robert Coalter Bryan,

Prominent in the city's social and civic activities and a well known surgeon, died at his home in Richmond on December 24, at the age of sixty-eight, after having been in bad health for several years. Completing his academic education, he studied at the University of Virginia, later going to the College of Physicians and Surgeons of New York

City, from which he graduated in 1899. Shortly thereafter he located in Richmond and was connected with the teaching staff of the former University College of Medicine and, after the merging of the medical schools, with the Medical College of Virginia. He was for sometime professor of genito-urinary surgery at the latter college until his retirement in 1932. He was one of the founders and former owners of Grace Hospital, this city. Dr. Bryan saw service abroad in the last World War, retiring with the rank of major in the Medical Corps. He was a member of numerous local and national medical organizations and a past president of the American Association of Genito-Urinary Surgeons. He also served as a member of the House of Delegates of the American Medical Association from the Medical Society of Virginia in 1919. His wife, two sons and two brothers survive him.

Dr. Harry L. Myers,

Prominent Norfolk specialist in diseases of the eye, ear, nose and throat, died January 5. He was a native of Waynesboro and seventy-two years of age. After his early education, Dr. Myers attended the University of Virginia and received his medical diploma there in 1889. Later he took post-graduate work in New York and abroad. Upon his return, he became assistant to Dr. Joseph A. White of Richmond. On leaving this city, he practiced for five years in Danville before locating in Norfolk where he had since made his home. He was a member of his local and State medical organizations and other societies in his specialty. His wife survives him.

Resolutions on Dr. Myers.

The Norfolk County Medical Society records with deep sorrow the death of one of its most beloved members, Dr. Harry L. Meyers.

A past president of the Society, for many years he has been a valuable member, a regular attendant at its meetings, and a staunch upholder of the principles and practices which have made it always a progressive, deliberative body of great value to its members and to the community which it strives to serve.

A perfect gentleman in all of his personal and professional contacts, he exemplified those characteristics which endeared him both to his patients and to his professional associates.

A graduate in medicine of the University of Virginia, he was one of the youngest men to pass the rigorous examinations of that institution and to receive its diploma. Beginning the practice of medicine at an early age, he extended his knowledge and experience by postgraduate work and later entered the special field that he practiced so successfully until the time of his death. A constant student and a careful worker, he soon gained recognition as one of the leading men in his specialty in this locality and in the State.

Like all men of real attainments, his modesty and self-effacement were predominant characteristics in his life and in the practice of his profession. Endowed with a good voice and considerable musical attainments, he found solace and recreation in the piano, which he played with delicacy of feeling and proficiency, mostly for his own enjoyment but on occasions for the benefit of his close friends.

Dr. Myers will be greatly missed by his friends, both in and out of the profession, but his gracious memory will remain with those who knew him well and who, in knowing him, felt the kindly influence of his friendship.

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Dr. William F. Williamson,

Richmond, died unexpectedly at his office on January 13. He was born in Alexandria sixty-two years ago and studied medicine at the former University College of Medicine, Richmond, from which he graduated in 1905. He saw service in the last World War and was retired with the rank of major. Two sisters survive him.

Dr. Virginius Dabney

Died at his home in Washington, D. C., January 18, at the age of sixty-three. He was a native of Charlottesville and graduated from the University of Virginia in 1902, later studying abroad. He had been chief of the staff of the Episcopal Eye, Ear and Throat Hospital in Washington for the past fourteen years. His wife and several children survive him.

Dr. Joseph Thompson Graham,

Draper, died November 29. He was forty-five years of age and a graduate in medicine from the Medical College of Virginia in 1923.

Dr. William Grady Smith,

Wendell, N. C., died December 11 at a Raleigh hospital. He received his diploma from the Medical College of Virginia in 1925, and was a member of his State and local medical organizations.

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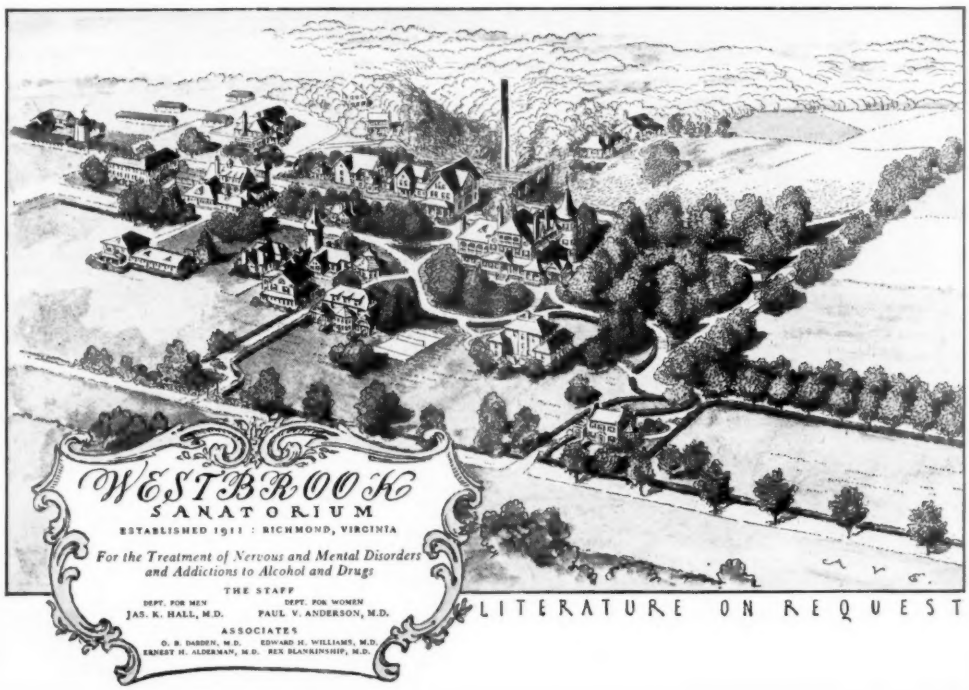
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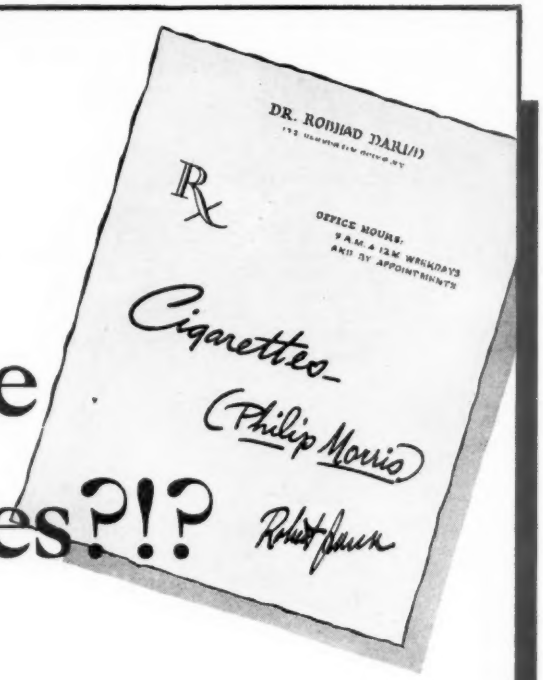

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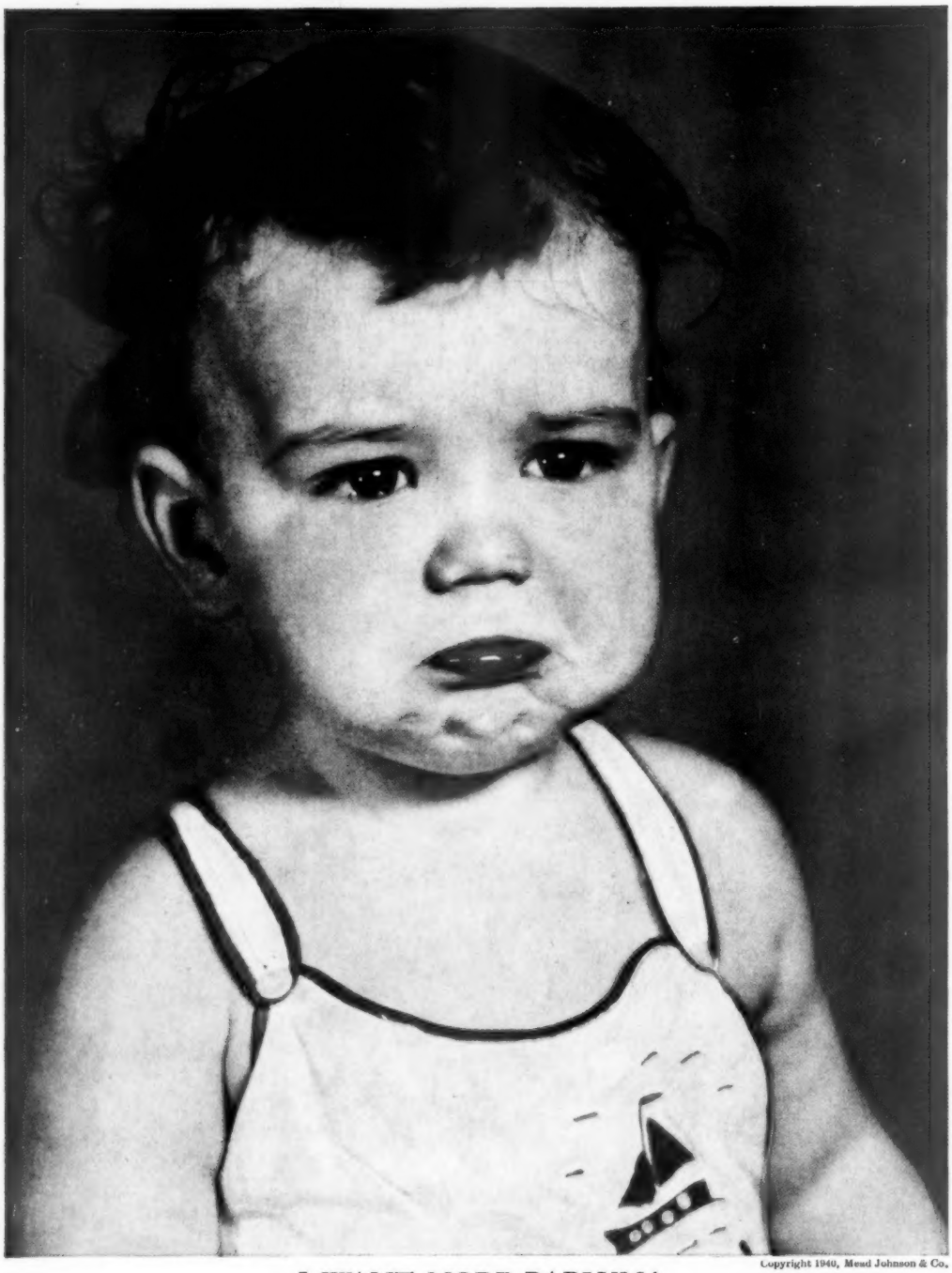

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